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(54) Title: AMIDINYLPHENYL COMPOUNDS AND THEIR USE AS FUNGICIDES

(57) Abstract: Compounds of the formula (R⁵)_m-(R⁶A)-2-(R⁴)-1-[N=C(R¹)N(R²)(R³)]benzene and their agriculturally suitable salts, are disclosed which are useful as fungicides, wherein R¹ is H, OH, SH, SO₃H, CN, -OR⁷ or -SR⁷; C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₅ alkoxy carbonyl, C₂-C₁₀ alkynyl, a C₃-C₆ carbocycle or a 3-, 4-, 5- or 6-membered heterocycle, each optionally substituted; provided that when R₄ is a heterocycle containing nitrogen as a ring member, it is not attached to the remainder of Formula 1 through said nitrogen ring member; R⁶ is C₅-C₂₁ alkyl, C₅-C₂₁ alkenyl, C₅-C₂₁ alkynyl, C₄-C₉ alkoxy carbonyl, C₄-C₆ alkylaminocar-
bonyl, C₃-C₁₀ dialkylaminocarbonyl or C₃-C₁₂ trialkylsilyl, each optionally substituted; or R⁶ is C₁-C₄ alkyl or C₂-C₅ alkyl carbonyl, each substituted with one or more R¹²; A is a direct bond, O, S(O)_n, or NR¹⁰; n is 0, 1 or 2; m is 0, 1, 2 or 3; and R², R³, R⁴, R⁵, R⁷, R¹⁰ and R¹² are as defined in the disclosure. Also disclosed are compositions containing the compounds of the formula (R⁵)_m-(R⁶A)-2-(R⁴)-1-[N=C(R¹)N(R²)(R³)]benzene and a method for controlling plant diseases caused by fungal plant pathogens which involves applying an effective amount of a compound of the formula (R⁵)_m-(R⁶A)-2-(R⁴)-1-[N=C(R¹)N(R²)(R³)]benzene.



TITLE

AMIDINYLPHENYL COMPOUNDS AND THEIR USE AS FUNGICIDES

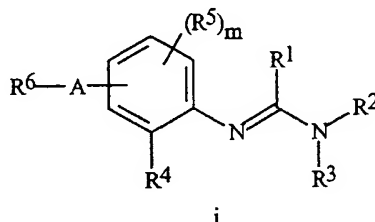
FIELD OF THE INVENTION

This invention relates to certain amidines, their agriculturally suitable salts and compositions, and methods of their use as fungicides.

BACKGROUND OF THE INVENTION

The control of plant diseases caused by fungal plant pathogens is extremely important in achieving high crop efficiency. Plant disease damage to ornamental, vegetable, field, cereal, and fruit crops can cause significant reduction in productivity and thereby result in increased costs to the consumer. Many products are commercially available for these purposes. The need continues for new compounds which are more effective, less costly, less toxic, environmentally safer and/or have different modes of action.

WO 00/46184 discloses certain phenylamidines of formula i as fungicides



wherein,

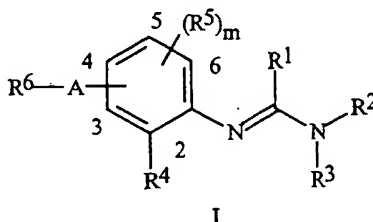
A and R¹ through R⁵ are as defined therein; and

R⁶ is optionally substituted carbocyclyl or heterocyclyl.

Various amidinylphenyl compounds are also disclosed in U.S. Patent No. 3,284,289, U.S. Patent No. 3,993,469, U.S. Patent No. 4,018,814, U.S. Patent No. 4,154,755, U.S. Patent No. 4,208,411, U.S. Patent No. 4,209,319 and U.S. Patent No. 5,219,868.

SUMMARY OF THE INVENTION

This invention is directed to compounds of Formula I (including all geometric, tautomeric and stereoisomers) and agriculturally suitable salts thereof, agricultural compositions containing them and their use as fungicides:



wherein

- 5 R^1 is H, OH, SH, SO_3H , CN, $-OR^7$ or $-SR^7$; C_1-C_{10} alkyl, C_2-C_{10} alkenyl, C_2-C_5 alkoxy carbonyl, C_2-C_{10} alkynyl, a C_3-C_6 carbocycle or a 3-, 4-, 5- or 6-membered heterocycle, each optionally substituted; provided that when R^1 is a heterocycle containing nitrogen as a ring member, it is not attached to the remainder of Formula I through said nitrogen ring member;
- R^2 is H, CN, $-OR^7$, or $-SR^7$; C_1-C_{10} alkyl, C_2-C_{10} alkenyl, C_2-C_{10} alkynyl, C_3-C_6 carbocycle, a 3-, 4-, 5- or 6-membered heterocycle or C_2-C_{10} alkyl carbonyl, each optionally substituted;
- 10 R^3 is H; C_1-C_{10} alkyl, C_2-C_{10} alkenyl, C_2-C_{10} alkynyl, a C_3-C_6 carbocycle, a 3-, 4-, 5- or 6-membered heterocycle or C_2-C_{10} alkyl carbonyl, each optionally substituted; or
- R^2 and R^3 are taken together with their interconnecting nitrogen to form a heterocyclic ring containing 3 to 7 atoms, said ring consisting of said interconnecting nitrogen atom, carbon and optionally one or two additional atoms selected from the group consisting of nitrogen, sulfur and oxygen, and said ring being optionally substituted with one or more R^9 ;
- 15 R^4 and each R^5 are each independently C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_3-C_6 cycloalkyl, C_1-C_6 haloalkyl, C_2-C_6 haloalkenyl, C_2-C_6 haloalkynyl, C_3-C_6 halocycloalkyl, halogen, CN, CHO, CO_2H , $CONH_2$, SF_5 , C_1-C_4 alkoxy, C_1-C_4 haloalkoxy, C_1-C_4 alkylthio, C_1-C_4 alkylsulfinyl, C_1-C_4 alkylsulfonyl, C_1-C_4 haloalkylthio, C_1-C_4 haloalkylsulfinyl, C_1-C_4 haloalkylsulfonyl, C_1-C_4 alkylamino, C_2-C_8 dialkylamino, C_3-C_6 cycloalkylamino, C_2-C_6 alkyl carbonyl, C_2-C_6 alkoxy carbonyl, C_2-C_6 alkylaminocarbonyl, C_3-C_8 dialkylaminocarbonyl or C_3-C_6 trialkylsilyl;
- 20 R^6 is C_5-C_{21} alkyl, C_5-C_{21} alkenyl, C_5-C_{21} alkynyl, C_4-C_9 alkoxy carbonyl, C_4-C_6 alkylaminocarbonyl, C_3-C_{10} dialkylaminocarbonyl or C_3-C_{12} trialkylsilyl, each optionally substituted; or R^6 is C_1-C_4 alkyl or C_2-C_9 alkyl carbonyl, each substituted with one or more R^{12} ;
- 30 A is a direct bond, O, $S(O)_n$ or NR^{10} ;
- each R^7 is independently C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, a C_3-C_6 carbocycle or a 3-, 4-, 5- or 6-membered heterocycle, each optionally substituted;
- each R^9 is independently halogen, CN, NO_2 , C_1-C_4 alkoxy, C_1-C_4 alkyl, C_1-C_4 haloalkoxy or C_1-C_4 alkylthio;
- 35 R^{10} is H, C_1-C_6 alkyl, C_2-C_6 alkenyl, C_2-C_6 alkynyl, C_1-C_4 alkylsulfonyl, C_1-C_4 haloalkylsulfonyl, C_2-C_6 alkyl carbonyl, C_2-C_6 alkoxy carbonyl, C_2-C_6 alkylaminocarbonyl, C_3-C_8 dialkylaminocarbonyl or C_3-C_6 trialkylsilyl;

each R^{12} is independently CO_2H , $CONH_2$, NO_2 , C_1-C_6 haloalkoxy, C_2-C_6 alkylthio, C_1-C_6 alkylsulfinyl, C_1-C_6 alkylsulfonyl, C_1-C_6 haloalkylthio, C_1-C_6 haloalkylsulfinyl, C_1-C_6 haloalkylsulfonyl, C_1-C_6 alkylamino, C_2-C_8 dialkylamino, C_2-C_6 alkylcarbonyl, C_2-C_6 alkoxy carbonyl, C_3-C_9 alkoxyalkylcarbonyl, C_2-C_6 alkylaminocarbonyl, C_3-C_{10} alkylaminoalkylcarbonyl, C_3-C_8 dialkylaminocarbonyl, C_4-C_8 dialkylaminoalkylcarbonyl, C_3-C_9 alkylthioalkylcarbonyl, C_3-C_9 trialkylsilyl, C_3-C_9 halotrialkylsilyl, C_4-C_9 alkoxytrialkylsilyl or C_3-C_9 trialkylsilyloxy;

n is 0, 1 or 2; and

m is 0, 1, 2 or 3.

DETAILS OF THE INVENTION

The compounds of Formula I as illustrated above can also be described as compounds of the formula $(R^5)_m-(R^6A)-2-(R^4)-1-[N=C(R^1)N(R^2)(R^3)]$ benzene, wherein R^1 , R^2 , R^3 , R^4 , R^5 , R^6 , A , m are as defined above.

In the above recitations, the term "alkyl", used either alone or in compound words such as "alkylthio" or "haloalkyl" includes straight-chain or branched alkyl, such as, methyl, ethyl, *n*-propyl, *i*-propyl, or the different butyl, pentyl or hexyl isomers. "Alkenyl" includes straight-chain or branched alkenes such as ethenyl, 1-propenyl, 2-propenyl, and the different butenyl, pentenyl and hexenyl isomers. "Alkenyl" also includes polyenes such as 1,2-propadienyl and 2,4-hexadienyl. "Alkynyl" includes straight-chain or branched alkynes such as ethynyl, 1-propynyl, 2-propynyl and the different butynyl, pentynyl and hexynyl isomers. "Alkynyl" can also include moieties comprised of multiple triple bonds such as 2,5-hexadiynyl. "Alkoxy" includes, for example, methoxy, ethoxy, *n*-propyloxy, isopropyloxy and the different butoxy, pentoxy and hexyloxy isomers. "Alkoxyalkyl" denotes alkoxy substitution on alkyl. Examples of "alkoxyalkyl" include CH_3OCH_2 , $CH_3OCH_2CH_2$, $CH_3CH_2OCH_2$, $CH_3CH_2CH_2CH_2OCH_2$ and $CH_3CH_2OCH_2CH_2$. "Alkoxyalkoxy" denotes alkoxy substitution on alkoxy. "Alkylthio" includes branched or straight-chain alkylthio moieties such as methylthio, ethylthio, and the different propylthio, butylthio, pentylthio and hexylthio isomers. "Alkylthioalkyl" denotes alkylthio substitution on alkyl. Examples of "alkylthioalkyl" include CH_3SCH_2 , $CH_3SCH_2CH_2$, $CH_3CH_2SCH_2$, $CH_3CH_2CH_2CH_2SCH_2$ and $CH_3CH_2SCH_2CH_2$. "Alkylthioalkoxy" denotes alkylthio substitution on alkoxy. "Alkylsulfinyl" includes both enantiomers of an alkylsulfinyl group. Examples of "alkylsulfinyl" include $CH_3S(O)$, $CH_3CH_2S(O)$, $CH_3CH_2CH_2S(O)$, $(CH_3)_2CHS(O)$ and the different butylsulfinyl, pentylsulfinyl and hexylsulfinyl isomers. Examples of "alkylsulfonyl" include $CH_3S(O)_2$, $CH_3CH_2S(O)_2$, $CH_3CH_2CH_2S(O)_2$, $(CH_3)_2CHS(O)_2$ and the different butylsulfonyl, pentylsulfonyl and hexylsulfonyl isomers. "Alkylamino", "dialkylamino", and the like, are defined analogously to the above examples.

The term "carbocycle" includes "aromatic carbocyclic ring system", which denotes fully aromatic carbocycles and carbocycles in which at least one ring of a polycyclic ring system is aromatic (where aromatic indicates that the Hückel rule is satisfied), and "nonaromatic carbocyclic ring system", which denotes fully saturated carbocycles as well as partially or fully unsaturated carbocycles where the Hückel rule is not satisfied by any of the rings in the ring system. "Cycloalkyl" includes, for example, cyclopropyl, cyclobutyl, cyclopentyl, and cyclohexyl.

The term "hetero" in connection with rings refers to a ring in which at least one ring atom is not carbon and which can contain 1 to 4 heteroatoms independently selected from the group consisting of nitrogen, oxygen and sulfur, provided that each ring contains no more than 4 nitrogens, no more than 2 oxygens and no more than 2 sulfurs. "Heterocycle" includes "aromatic heterocyclic ring system", which denotes fully aromatic heterocycles and heterocycles in which at least one ring of a polycyclic ring system is aromatic (where aromatic indicates that the Hückel rule is satisfied), and "nonaromatic heterocyclic ring system", which denotes fully saturated heterocycles as well as partially or fully unsaturated heterocycles where the Hückel rule is not satisfied by any of the rings in the ring system. The heterocyclic ring systems can be attached through any available carbon or nitrogen by replacement of a hydrogen on said carbon or nitrogen.

The term "halogen", either alone or in compound words such as "haloalkyl", includes fluorine, chlorine, bromine or iodine. Further, when used in compound words such as "haloalkyl", said alkyl may be partially or fully substituted with halogen atoms which may be the same or different. Examples of "haloalkyl" include F_3C , $ClCH_2$, CF_3CH_2 and CF_3CCl_2 . The terms "haloalkenyl", "haloalkynyl", "haloalkoxy", "haloalkylthio", and the like, are defined analogously to the term "haloalkyl". Examples of "haloalkenyl" include $(Cl)_2C=CHCH_2$ and $CF_3CH_2CH=CHCH_2$. Examples of "haloalkynyl" include $HC\equiv CCHCl$, $CF_3C\equiv C$, $CCl_3C\equiv C$ and $FCH_2C\equiv CCH_2$. Examples of "haloalkoxy" include CF_3O , CCl_3CH_2O , $HCF_2CH_2CH_2O$ and CF_3CH_2O . Examples of "haloalkylthio" include CCl_3S , CF_3S , CCl_3CH_2S and $ClCH_2CH_2CH_2S$. Examples of "haloalkylsulfinyl" include $CF_3S(O)$, $CCl_3S(O)$, $CF_3CH_2S(O)$ and $CF_3CF_2S(O)$. Examples of "haloalkylsulfonyl" include $CF_3S(O)_2$, $CCl_3S(O)_2$, $CF_3CH_2S(O)_2$ and $CF_3CF_2S(O)_2$.

"Trialkylsilyl" includes 3 branched and/or straight-chain alkyl radicals attached to and linked through a silicon atom such as trimethylsilyl, triethylsilyl and *t*-butyl-dimethylsilyl. "Halotrialkylsilyl" denotes at least one of the three alkyl radicals is partially or fully substituted with halogen atoms which may be the same or different. "Alkoxytrialkylsilyl" denotes at least one of the three alkyl radicals is substituted with one or more alkoxy radicals which may be the same or different. "Trialkylsilyloxy" denotes a trialkylsilyl moiety attached through oxygen.

Examples of "alkylcarbonyl" include $C(O)CH_3$, $C(O)CH_2CH_2CH_3$ and $C(O)CH(CH_3)_2$. Examples of "alkoxycarbonyl" include $CH_3OC(=O)$, $CH_3CH_2OC(=O)$, $CH_3CH_2CH_2OC(=O)$, $(CH_3)_2CHOC(=O)$ and the different butoxy- or pentoxycarbonyl isomers. Examples of "alkylaminocarbonyl" include $CH_3NHC(=O)$, $CH_3CH_2NHC(=O)$, $CH_3CH_2CH_2NHC(=O)$, $(CH_3)_2CHNHC(=O)$ and the different butylamino- or pentylaminocarbonyl isomers. Examples of "dialkylaminocarbonyl" include $(CH_3)_2NC(=O)$, $(CH_3CH_2)_2NC(=O)$, $CH_3CH_2(CH_3)NC(=O)$, $CH_3CH_2CH_2(CH_3)NC(=O)$ and $(CH_3)_2CHN(CH_3)C(=O)$. Examples of "alkoxyalkylcarbonyl" include $CH_3OCH_2C(=O)$, $CH_3OCH_2CH_2C(=O)$, $CH_3CH_2OCH_2C(=O)$, $CH_3CH_2CH_2CH_2OCH_2C(=O)$ and $CH_3CH_2OCH_2CH_2C(=O)$. Examples of "alkylthioalkylcarbonyl" include $CH_3SCH_2C(=O)$, $CH_3SCH_2CH_2C(=O)$, $CH_3CH_2SCH_2C(=O)$, $CH_3CH_2CH_2CH_2SCH_2C(=O)$ and $CH_3CH_2SCH_2CH_2C(=O)$. Examples of "alkylaminoalkylcarbonyl" include $CH_3NHCH_2C(=O)$, $CH_3NHCH_2CH_2C(=O)$, $CH_3CH_2NHCH_2C(=O)$, $CH_3CH_2CH_2CH_2NHCH_2C(=O)$ and $CH_3CH_2NHCH_2CH_2C(=O)$.

The total number of carbon atoms in a substituent group is indicated by the " C_i-C_j " prefix where i and j are numbers from 1 to 21. For example, C_1-C_3 alkylsulfonyl designates methylsulfonyl through propylsulfonyl; C_2 alkoxyalkyl designates CH_3OCH_2 ; C_3 alkoxyalkyl designates, for example, $CH_3CH(OCH_3)$, $CH_3OCH_2CH_2$ or $CH_3CH_2OCH_2$; and C_4 alkoxyalkyl designates the various isomers of an alkyl group substituted with an alkoxy group containing a total of four carbon atoms, examples including $CH_3CH_2CH_2OCH_2$ and $CH_3CH_2OCH_2CH_2$. In the above recitations, when a compound of Formula I is comprised of one or more heterocyclic rings, all substituents are attached to these rings through any available carbon or nitrogen by replacement of a hydrogen on said carbon or nitrogen.

When a compound is substituted with a substituent bearing a subscript that indicates the number of said substituents can exceed 1, said substituents (when they exceed 1) are independently selected from the group of defined substituents. Further, when the subscript indicates a range, e.g. $(R)_{i-j}$, then the number of substituents may be selected from the integers between i and j inclusive.

When a group contains a substituent which can be hydrogen, for example R^1 or R^2 , then, when this substituent is taken as hydrogen, it is recognized that this is equivalent to said group being unsubstituted.

Compounds of this invention can exist as one or more stereoisomers. The various stereoisomers include enantiomers, diastereomers, atropisomers and geometric isomers. One skilled in the art will appreciate that one stereoisomer may be more active and/or may exhibit beneficial effects when enriched relative to the other stereoisomer(s) or when separated from the other stereoisomer(s). Additionally, the skilled artisan knows how to

separate, enrich, and/or to selectively prepare said stereoisomers. Accordingly, the present invention comprises compounds selected from Formula I, *N*-oxides and agriculturally suitable salts thereof. The compounds of the invention may be present as a mixture of stereoisomers, individual stereoisomers, or as an optically active form.

One skilled in the art will appreciate that not all nitrogen-containing heterocycles can form *N*-oxides since the nitrogen requires an available lone pair for oxidation to the oxide; one skilled in the art will recognize those nitrogen-containing heterocycles which can form *N*-oxides. One skilled in the art will also recognize that tertiary amines can form *N*-oxides. Synthetic methods for the preparation of *N*-oxides of heterocycles and tertiary amines are very well known by one skilled in the art including the oxidation of heterocycles and tertiary amines with peroxy acids such as peracetic and *m*-chloroperbenzoic acid (MCPBA), hydrogen peroxide, alkyl hydroperoxides such as *t*-butyl hydroperoxide, sodium perborate, and dioxiranes such as dimethyldioxirane. These methods for the preparation of *N*-oxides have been extensively described and reviewed in the literature, see for example:

T. L. Gilchrist in *Comprehensive Organic Synthesis*, vol. 7, pp 748-750, S. V. Ley, Ed., Pergamon Press; M. Tisler and B. Stanovnik in *Comprehensive Heterocyclic Chemistry*, vol. 3, pp 18-20, A. J. Boulton and A. McKillop, Eds., Pergamon Press; M. R. Grimmett and B. R. T. Keene in *Advances in Heterocyclic Chemistry*, vol. 43, pp 149-161, A. R. Katritzky, Ed., Academic Press; M. Tisler and B. Stanovnik in *Advances in Heterocyclic Chemistry*, vol. 9, pp 285-291, A. R. Katritzky and A. J. Boulton, Eds., Academic Press; and G. W. H. Cheeseman and E. S. G. Werstiuk in *Advances in Heterocyclic Chemistry*, vol. 22, pp 390-392, A. R. Katritzky and A. J. Boulton, Eds., Academic Press.

The salts of the compounds of the invention include acid-addition salts with inorganic or organic acids such as hydrobromic, hydrochloric, nitric, phosphoric, sulfuric, acetic, butyric, fumaric, lactic, maleic, malonic, oxalic, propionic, salicylic, tartaric, 4-toluenesulfonic or valeric acids. The salts of the compounds of the invention also include those formed with organic bases (e.g., pyridine, ammonia, or triethylamine) or inorganic bases (e.g., hydrides, hydroxides, or carbonates of sodium, potassium, lithium, calcium, magnesium or barium) when the compound contains an acidic group such as a carboxylic acid or phenol.

Of note are compounds of Formula I wherein

R^1 is H, OH, SH, SO_3H , CN, $-OR^7$ or $-SR^7$; C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_2 - C_{10} alkynyl, a C_3 - C_6 carbocycle or a 3-, 4-, 5- or 6-membered heterocycle, each optionally substituted; provided that when R^1 is a heterocycle containing nitrogen as a ring member, it is not attached to the remainder of Formula I through said nitrogen ring member;

R^4 and each R^5 are each independently C_1 - C_6 alkyl, C_2 - C_6 alkenyl, C_2 - C_6 alkynyl, C_3 - C_6 cycloalkyl, C_1 - C_6 haloalkyl, C_2 - C_6 haloalkenyl, C_2 - C_6 haloalkynyl,

C₃-C₆ halocycloalkyl, halogen, CO₂H, CONH₂, SF₅, C₁-C₄ alkoxy, C₁-C₄ haloalkoxy, C₁-C₄ alkylthio, C₁-C₄ alkylsulfinyl, C₁-C₄ alkylsulfonyl, C₁-C₄ haloalkylthio, C₁-C₄ haloalkylsulfinyl, C₁-C₄ haloalkylsulfonyl, C₁-C₄ alkylamino, C₂-C₈ dialkylamino, C₃-C₆ cycloalkylamino, C₂-C₆ alkylcarbonyl, C₂-C₆ alkoxycarbonyl, C₂-C₆ alkylaminocarbonyl, C₃-C₈ dialkylaminocarbonyl or C₃-C₆ trialkylsilyl; and

each R¹² is independently CO₂H, CONH₂, NO₂, C₁-C₆ haloalkoxy, C₂-C₆ alkylthio, C₁-C₆ alkylsulfinyl, C₁-C₆ alkylsulfonyl, C₁-C₆ haloalkylthio, C₁-C₆ haloalkylsulfinyl, C₁-C₆ haloalkylsulfonyl, C₁-C₆ alkylamino, C₂-C₈ dialkylamino, C₂-C₆ alkylcarbonyl, C₂-C₆ alkoxycarbonyl, C₃-C₉ alkoxyalkylcarbonyl, C₂-C₆ alkylaminocarbonyl, C₄-C₁₀ alkylaminoalkylcarbonyl, C₃-C₈ dialkylaminocarbonyl, C₃-C₈ dialkylaminoalkylcarbonyl, C₃-C₉ alkylthioalkylcarbonyl, C₃-C₉ trialkylsilyl or C₃-C₉ trialkylsilyloxy.

Preferred compounds for reasons of cost, ease of synthesis and/or biological efficacy are:

Preferred 1. Compounds of Formula I above, and agriculturally suitable salts thereof, wherein

R¹ is H, SH, SO₃H, CN, -OR⁷ or -SR⁷; C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl or C₂-C₁₀ alkynyl, each optionally substituted with one or more R⁸; or a C₃-C₆ carbocycle or a 3-, 4-, 5- or 6-membered heterocycle, each optionally substituted with one or more R⁹;

R² is H, CN, -OR⁷ or -SR⁷; C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl or C₂-C₁₀ alkylcarbonyl, each optionally substituted with one or more R⁸; or a C₃-C₆ carbocycle or a 3-, 4-, 5- or 6-membered heterocycle, each optionally substituted with one or more R⁹;

R³ is H; C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl or C₂-C₁₀ alkylcarbonyl, each optionally substituted with one or more R⁸; or a C₃-C₆ carbocycle or a 3-, 4-, 5- or 6-membered heterocycle, each optionally substituted with one or more R⁹; or

R² and R³ are taken together with their interconnecting nitrogen to form a heterocyclic ring containing 3 to 6 atoms, said ring consisting of said interconnecting nitrogen atom, carbon and optionally one or two additional atoms selected from the group consisting of nitrogen, sulfur and oxygen, and said ring being optionally substituted with one or more R⁹;

R⁶ is C₅-C₂₁ alkyl, C₅-C₂₁ alkenyl, C₅-C₂₁ alkynyl, C₄-C₉ alkoxycarbonyl, C₄-C₆ alkylaminocarbonyl, C₃-C₁₀ dialkylaminocarbonyl or C₃-C₁₂

trialkylsilyl, each optionally substituted with one or more R¹¹; or R⁶ is C₁-C₄ alkyl or C₂-C₉ alkylcarbonyl, each substituted with one or more R¹²;

each R⁷ is independently C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, each optionally substituted with one or more R⁸; or a C₃-C₆ carbocycle or a 3-, 4-, 5- or 6-membered heterocycle, each optionally substituted with one or more R⁹;

each R⁸ is independently halogen, CN, NO₂, C₁-C₄ alkoxy, C₁-C₄ haloalkoxy or C₁-C₄ alkylthio; and

each R¹¹ is independently halogen, CO₂H, CONH₂, NO₂, hydroxy, C₁-C₆ alkoxy, C₁-C₆ haloalkoxy, C₂-C₆ alkylthio, C₁-C₆ alkylsulfinyl, C₁-C₆ alkylsulfonyl, C₁-C₆ haloalkylthio, C₁-C₆ haloalkylsulfinyl, C₁-C₆ haloalkylsulfonyl, C₁-C₆ alkylamino, C₂-C₈ dialkylamino, C₂-C₆ alkylcarbonyl, C₂-C₆ alkoxycarbonyl, C₃-C₉ alkoxyalkylcarbonyl, C₂-C₆ alkylaminocarbonyl, C₄-C₁₀ alkylaminoalkylcarbonyl, C₃-C₈ dialkylaminocarbonyl, C₄-C₈ dialkylaminoalkylcarbonyl, C₃-C₉ alkylthioalkylcarbonyl, C₂-C₈ dialkylphosphoryl, C₂-C₈ dialkylphosphinyl, C₃-C₉ trialkylsilyl or C₃-C₉ trialkylsilyloxy.

Of note are compounds of Preferred 1 wherein

R² is H, CN, -OR⁷ or -SR⁷; C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl or C₂-C₁₀ alkylcarbonyl, each optionally substituted with one or more R⁸; or a C₃-C₆ carbocycle or a 3-, 4-, 5- or 6-membered heterocycle, each optionally substituted with one or more R⁹;

R³ is H; C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl or C₂-C₁₀ alkylcarbonyl, each optionally substituted with one or more R⁸; or a C₃-C₆ carbocycle or a 3-, 4-, 5- or 6-membered heterocycle, each optionally substituted with one or more R⁹;

R⁴ and each R⁵ are each independently C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₃-C₆ cycloalkyl, C₁-C₆ haloalkyl, C₂-C₆ haloalkenyl, C₂-C₆ haloalkynyl, C₃-C₆ halocycloalkyl, halogen, CO₂H, CONH₂, SF₅, C₁-C₄ alkoxy, C₁-C₄ haloalkoxy, C₁-C₄ alkylthio, C₁-C₄ alkylsulfinyl, C₁-C₄ alkylsulfonyl, C₁-C₄ haloalkylthio, C₁-C₄ haloalkylsulfinyl, C₁-C₄ haloalkylsulfonyl, C₁-C₄ alkylamino, C₂-C₈ dialkylamino, C₃-C₆ cycloalkylamino, C₂-C₆ alkylcarbonyl, C₂-C₆ alkoxycarbonyl, C₂-C₆ alkylaminocarbonyl, C₃-C₈ dialkylaminocarbonyl or C₃-C₆ trialkylsilyl; and

each R¹² is independently CO₂H, CONH₂, NO₂, C₁-C₆ haloalkoxy, C₂-C₆ alkylthio, C₁-C₆ alkylsulfinyl, C₁-C₆ alkylsulfonyl, C₁-C₆ haloalkylthio, C₁-C₆ haloalkylsulfinyl, C₁-C₆ haloalkylsulfonyl, C₁-C₆ alkylamino, C₂-C₈ dialkylamino, C₂-C₆ alkylcarbonyl, C₂-C₆ alkoxycarbonyl, C₃-C₉

alkoxyalkylcarbonyl, C₂-C₆ alkylaminocarbonyl, C₄-C₁₀ alkylaminoalkylcarbonyl, C₃-C₈ dialkylaminocarbonyl, C₃-C₈ dialkylaminoalkylcarbonyl, C₃-C₉ alkylthioalkylcarbonyl, C₃-C₉ trialkylsilyl or C₃-C₉ trialkylsilyloxy.

5 Preferred 2. Compounds of Preferred 1 wherein

R² is H, CN, -OR⁷ or -SR⁷; C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl, each optionally substituted with one or more R⁸; or phenyl optionally substituted with 1 to 3 R⁹;

10 R³ is H; C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl or C₂-C₁₀ alkynyl, each optionally substituted with one or more R⁸; or phenyl optionally substituted with 1 to 3 R⁹; or

15 R² and R³ are taken together with their interconnecting nitrogen to form a heterocyclic ring containing 3 to 6 atoms, said ring consisting of said interconnecting nitrogen atom, carbon and optionally one additional atom selected from the group consisting of nitrogen, sulfur and oxygen, and said ring being optionally substituted with one or more R⁹;

20 R⁴ and R⁵ are each independently C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₁-C₆ haloalkyl, halogen, CO₂H, CONH₂, C₁-C₄ alkoxy, C₁-C₄ haloalkoxy, C₁-C₄ alkylthio, C₁-C₄ alkylsulfinyl, C₁-C₄ alkylsulfonyl, C₁-C₄ haloalkylthio, C₁-C₄ haloalkylsulfinyl, C₁-C₄ haloalkylsulfonyl, C₁-C₆ alkylcarbonyl, C₂-C₆ alkoxycarbonyl, C₂-C₆ alkylaminocarbonyl, CN, CHO or C₃-C₈ dialkylaminocarbonyl;

25 R⁶ is C₅-C₁₅ alkyl, C₅-C₁₅ alkenyl or C₅-C₁₅ alkynyl, each optionally substituted with one or more R¹¹; or R⁶ is C₁-C₄ alkyl substituted with one or more R¹²;

each R⁷ is independently C₁-C₆ alkyl, optionally substituted with one or more R⁸;

A is a direct bond, O or S(O)_n; and

m is 0, 1 or 2.

30 Preferred 2a. Compound of Preferred 2 wherein R¹ is H, SH or C₁-C₁₀ alkyl.

Of note are compounds of Preferred 2 wherein

R¹ and R² are each independently H, CN, -OR⁷ or -SR⁷; C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl, each optionally substituted with one or more R⁸; or phenyl optionally substituted with 1 to 3 R⁹;

35 R³ is H; C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl or C₂-C₁₀ alkynyl, each optionally substituted with one or more R⁸; or phenyl optionally substituted with 1 to 3 R⁹;

R⁴ and R⁵ are each independently C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₁-C₆ haloalkyl, halogen, CO₂H, CONH₂, C₁-C₄ alkoxy, C₁-C₄ haloalkoxy, C₁-C₄

alkylthio, C₁-C₄ alkylsulfinyl, C₁-C₄ alkylsulfonyl, C₁-C₄ haloalkylthio, C₁-C₄ haloalkylsulfinyl, C₁-C₄ haloalkylsulfonyl, C₁-C₆ alkylcarbonyl, C₁-C₆ alkoxy carbonyl, C₁-C₆ alkylaminocarbonyl or C₂-C₈ dialkylaminocarbonyl; and each R¹² is independently CO₂H, CONH₂, NO₂, C₁-C₆ haloalkoxy, C₂-C₆ alkylthio, C₁-C₆ alkylsulfinyl, C₁-C₆ alkylsulfonyl, C₁-C₆ haloalkylthio, C₁-C₆ haloalkylsulfinyl, C₁-C₆ haloalkylsulfonyl, C₁-C₆ alkylamino, C₂-C₈ dialkylamino, C₂-C₆ alkylcarbonyl, C₂-C₆ alkoxy carbonyl, C₃-C₉ alkoxyalkylcarbonyl, C₂-C₆ alkylaminocarbonyl, C₄-C₁₀ alkylaminoalkylcarbonyl, C₃-C₈ dialkylaminocarbonyl, C₃-C₈ dialkylaminoalkylcarbonyl, C₃-C₉ alkylthioalkylcarbonyl, C₃-C₉ trialkylsilyl or C₃-C₉ trialkylsilyloxy.

Preferred 3. Compounds of Preferred 2 wherein

A is attached to the remainder of Formula I at the 4 position of the benzene ring.

Preferred 3a. Compounds of Preferred 3 wherein R¹ is H, SH or C₁-C₁₀ alkyl.

Of note are compounds of Preferred 3 wherein

R¹ and R² are each independently H, CN, -OR⁷ or -SR⁷; C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl, each optionally substituted with one or more R⁸; or phenyl optionally substituted with 1 to 3 R⁹;

R³ is H; C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl or C₂-C₁₀ alkynyl, each optionally substituted with one or more R⁸; or phenyl optionally substituted with 1 to 3 R⁹;

R⁴ and R⁵ are each independently C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₁-C₆ haloalkyl, halogen, CO₂H, CONH₂, C₁-C₄ alkoxy, C₁-C₄ haloalkoxy, C₁-C₄ alkylthio, C₁-C₄ alkylsulfinyl, C₁-C₄ alkylsulfonyl, C₁-C₄ haloalkylthio, C₁-C₄ haloalkylsulfinyl, C₁-C₄ haloalkylsulfonyl, C₁-C₆ alkylcarbonyl, C₁-C₆ alkoxy carbonyl, C₁-C₆ alkylaminocarbonyl or C₂-C₈ dialkylaminocarbonyl; and each R¹² is independently CO₂H, CONH₂, NO₂, C₁-C₆ haloalkoxy, C₂-C₆ alkylthio, C₁-C₆ alkylsulfinyl, C₁-C₆ alkylsulfonyl, C₁-C₆ haloalkylthio, C₁-C₆ haloalkylsulfinyl, C₁-C₆ haloalkylsulfonyl, C₁-C₆ alkylamino, C₂-C₈ dialkylamino, C₂-C₆ alkylcarbonyl, C₂-C₆ alkoxy carbonyl, C₃-C₉ alkoxyalkylcarbonyl, C₂-C₆ alkylaminocarbonyl, C₄-C₁₀ alkylaminoalkylcarbonyl, C₃-C₈ dialkylaminocarbonyl, C₃-C₈ dialkylaminoalkylcarbonyl, C₃-C₉ alkylthioalkylcarbonyl, C₃-C₉ trialkylsilyl or C₃-C₉ trialkylsilyloxy.

Preferred 4. Compounds of Preferred 3 wherein

R¹ is H, SH or C₁-C₁₀ alkyl;

R² and R³ are each independently H or C₁-C₁₀ alkyl; or

R² and R³ are taken together with their interconnecting nitrogen to form a heterocyclic ring containing 3 to 6 atoms, said ring consisting of said interconnecting nitrogen atom, carbon and optionally one additional atom selected from the group consisting of nitrogen, sulfur and oxygen, and said ring being optionally substituted with one or more R⁹;

R⁴ and R⁵ are each independently halogen, CN, CHO, C₁-C₆ alkyl, C₁-C₄ alkoxy, C₁-C₄ haloalkoxy, C₁-C₄ alkylthio, C₁-C₄ alkylsulfinyl, C₁-C₄ haloalkylthio, C₁-C₄ haloalkylsulfinyl or C₁-C₆ haloalkyl;

One R⁵ is attached to the remainder of Formula I at the 5 position of the benzene ring and an optional second R⁵ is attached at the 6 position of the benzene ring; and

m is 1 or 2.

Preferred 4a. Compounds of Preferred 4 wherein

R¹, R² and R³ are each independently H or C₁-C₁₀ alkyl;

R⁴ and R⁵ are each independently, halogen, C₁-C₆ alkyl or C₁-C₆ haloalkyl;

R⁵ is attached to the remainder of Formula I at the 5 position of the benzene ring;

each R¹² is independently CO₂H, CONH₂, NO₂, C₁-C₆ haloalkoxy, C₂-C₆ alkylthio, C₁-C₆ alkylsulfinyl, C₁-C₆ alkylsulfonyl, C₁-C₆ haloalkylthio, C₁-C₆ haloalkylsulfinyl, C₁-C₆ haloalkylsulfonyl, C₁-C₆ alkylamino, C₂-C₈ dialkylamino, C₂-C₆ alkylcarbonyl, C₂-C₆ alkoxy carbonyl, C₃-C₉ alkoxyalkylcarbonyl, C₂-C₆ alkylaminocarbonyl, C₄-C₁₀ alkylaminoalkylcarbonyl, C₃-C₈ dialkylaminocarbonyl, C₃-C₈ dialkylaminoalkylcarbonyl, C₃-C₉ alkylthioalkylcarbonyl, C₃-C₉ trialkylsilyl or C₃-C₉ trialkylsilyloxy; and

m is 1.

Of note are compounds of Formula I (including but not limited to compounds of Preferred 1, Preferred 2, Preferred 2a, Preferred 3, Preferred 3a, Preferred 4 and Preferred 4a) wherein R⁶ is alkyl, optionally substituted with halogen or C₁-C₆ alkoxy. Also of note are compounds of Formula I (including but not limited to compounds of Preferred 1, Preferred 2, Preferred 2a, Preferred 3, Preferred 3a, Preferred 4 and Preferred 4a) wherein R⁶ is alkenyl, optionally substituted with halogen. Examples include compounds wherein R⁶ is selected from the group consisting of (a) the branched alkyl moieties CH(CH₃)(CH₂)₃CH₃, CH(CH₃)(CH₂)₄CH₃, CH(CH₃)(CH₂)₅CH₃, CH(CH₃)(CH₂)₆CH₃, CH(CH₃)(CH₂)₇CH₃, CH(CH₃)(CH₂)₈CH₃, CH(C₂H₅)(CH₂)₃CH₃, CH(C₂H₅)(CH₂)₄CH₃, CH₂CH(CH₃)(CH₂)₂CH₃, CH₂CH(CH₃)(CH₂)₄CH₃, CH₂CH(C₂H₅)CH₂CH₂CH₂CH₃, (CH₂)₂CH(CH₃)(CH₂)₃CH(CH₃)₂, (CH₂)₂CH(CH₃)CH₂C(CH₃)₃,

$(\text{CH}_2)_2\text{CH}(\text{CH}_3)(\text{CH}_2)_3\text{C}(\text{CH}_3)_3$, $(\text{CH}_2)_2\text{C}(\text{CH}_3)_3$, $(\text{CH}_2)_3\text{C}(\text{CH}_3)_3$, $(\text{CH}_2)_3\text{C}(\text{C}_2\text{H}_5)_3$,
 $(\text{CH}_2)_3\text{CH}(\text{C}_2\text{H}_5)_3$, $(\text{CH}_2)_3\text{CH}(\text{CH}_3)_2$, $(\text{CH}_2)_4\text{CH}(\text{CH}_3)_2$, $(\text{CH}_2)_5\text{CH}(\text{CH}_3)_2$,
 $\text{CH}(\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3)_2$, $\text{CH}(\text{CH}_2\text{CH}_2\text{CH}_3)(\text{CH}_2)_3\text{CH}_3$, $\text{CH}(\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3)_2$,
 $\text{CH}(\text{C}_2\text{H}_5)\text{CH}_2\text{CH}_2\text{CH}(\text{CH}_3)_2$, $\text{CH}(\text{CH}_3)\text{CH}_2\text{CH}_2\text{CH}(\text{CH}_3)_2$, $\text{CH}(\text{CH}_3)\text{CH}_2\text{CH}_2\text{C}(\text{CH}_3)_3$,
5 $\text{CH}(\text{CH}_2\text{CH}_2\text{CH}_3)\text{CH}_2\text{CH}_2\text{CH}(\text{CH}_3)_2$, $\text{CH}(\text{CH}_2\text{CH}_2\text{CH}(\text{CH}_3)_2)_2$, $\text{CH}(\text{CH}_2\text{CH}_2\text{CH}_3)_2$ and
 $\text{CH}(\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3)(\text{CH}_2)_5\text{CH}_3$, (b) the linear alkyl moieties $(\text{CH}_2)_4\text{CH}_3$, $(\text{CH}_2)_5\text{CH}_3$,
 $(\text{CH}_2)_6\text{CH}_3$, $(\text{CH}_2)_7\text{CH}_3$, $(\text{CH}_2)_8\text{CH}_3$, $(\text{CH}_2)_9\text{CH}_3$, $(\text{CH}_2)_{10}\text{CH}_3$, (c) the branched alkenyl
moieties $(\text{CH}_2)_2\text{CH}=\text{C}(\text{CH}_3)_2$, $(\text{CH}_2)_5\text{C}(\text{CH}_3)=\text{CH}_2$, $(\text{CH}_2)_6\text{C}(\text{CH}_3)=\text{CH}_2$,
 $(\text{CH}_2)_7\text{C}(\text{CH}_3)=\text{CH}_2$, $\text{CH}_2\text{CH}=\text{C}(\text{CH}_3)_2$, $\text{CH}_2\text{CH}=\text{C}(\text{CH}_3)(\text{CH}_2)_2\text{CH}=\text{C}(\text{CH}_3)_2$,
10 $\text{CH}_2(\text{CH}=\text{C}(\text{CH}_3)(\text{CH}_2)_2)_2\text{CH}=\text{C}(\text{CH}_3)_2$, $(\text{CH}_2)_3\text{C}(=\text{CH}_2)\text{CH}(\text{CH}_3)_2$,
 $\text{CH}_2\text{CH}=\text{CHCH}(\text{CH}_3)_2$, $\text{CH}_2\text{CH}=\text{CHCH}_2\text{CH}(\text{CH}_3)_2$, $\text{CH}_2\text{CH}=\text{CHC}(\text{CH}_3)_3$ and
 $\text{CH}_2\text{CH}=\text{CHCH}_2\text{C}(\text{CH}_3)_3$ and (d) the linear alkenyl moieties $(\text{CH}_2)_3\text{CH}=\text{CH}_2$,
 $(\text{CH}_2)_4\text{CH}=\text{CH}_2$, $(\text{CH}_2)_5\text{CH}=\text{CH}_2$, $(\text{CH}_2)_6\text{CH}=\text{CH}_2$, $(\text{CH}_2)_7\text{CH}=\text{CH}_2$, $(\text{CH}_2)_8\text{CH}=\text{CH}_2$ and
 $(\text{CH}_2)_9\text{CH}=\text{CH}_2$. Examples further include such compounds wherein R^6 is selected from
15 said alkyl and alkenyl moieties (a), (b), (c) and (d) wherein at least one hydrogen has been
replaced by halogen (e.g., compounds wherein R^6 is selected from said alkyl moieties
wherein a CH_3 group has been replaced by a CF_3 group; and compounds wherein R^6 is
selected from said alkenyl moieties wherein a $=\text{CH}_2$ group has been replaced by a $=\text{CF}_2$
group). Examples also include such compounds wherein R^6 is selected from said alkyl
20 moieties (a) and (b) wherein at least one hydrogen has been replaced by OCH_3 , OC_2H_5 ,
 $\text{OCH}(\text{CH}_3)_2$ or $\text{OC}(\text{CH}_3)_3$.

Of particular note are compounds of Formula I (including but not limited to
compounds of Preferred 1, Preferred 2, Preferred 2a, Preferred 3, Preferred 3a, Preferred 4
and Preferred 4a) wherein R^6 is selected from the group consisting of $(\text{CH}_2)_3\text{C}(\text{CH}_3)_2\text{OCH}_3$,
25 $(\text{CH}_2)_3\text{C}(\text{CH}_3)_2\text{OC}_2\text{H}_5$, $(\text{CH}_2)_3\text{C}(\text{CH}_3)_2\text{OCH}(\text{CH}_3)_2$, $(\text{CH}_2)_3\text{C}(\text{CH}_3)_2\text{OC}(\text{CH}_3)_3$,
 $(\text{CH}_2)_3\text{C}(\text{CH}_3)_2\text{F}$, $(\text{CH}_2)_3\text{C}(\text{CH}_3)_2\text{Cl}$ and $(\text{CH}_2)_3\text{C}(\text{CH}_3)_2\text{Br}$.

Preferred 5. Compounds of Preferred 4 wherein

R^1 is H; and

30 R^6 is $\text{C}_6\text{-C}_{15}$ alkyl wherein at least one of the fourth and fifth carbon from A
has one or no hydrogen attached or $\text{C}_5\text{-C}_{15}$ 2-alkenyl wherein the fourth
or fifth carbon from A has one or no hydrogen attached (In other words,
 R^6 is branched at the fourth and/or fifth carbon).

Preferred 5a. Compounds of Preferred 5 wherein R^2 , R^3 , R^4 and R^5 are each methyl
and m is 1.

35 Preferred 5b. Compounds of Preferred 5 wherein R^2 and R^3 are each independently
methyl or ethyl.

Of note are compounds of Formula I (including but not limited to compounds of
Preferred 1, Preferred 2, Preferred 2a, Preferred 3, Preferred 3a, Preferred 4, Preferred 4a,

Preferred 5, Preferred 5a and Preferred 5b) wherein R^6 is selected from the group consisting of (a) the alkyl moieties $(CH_2)_2CH(CH_3)CH_2C(CH_3)_3$, $(CH_2)_3CH(CH_3)_2$, $CH(C_2H_5)CH_2CH_2CH(CH_3)_2$, $CH(CH_3)CH_2CH_2CH(CH_3)_2$, $CH(CH_2CH_2CH_3)CH_2CH_2CH(CH_3)_2$ and $CH(CH_2CH_2CH(CH_3)_2)_2$ and (b) the alkenyl moieties $CH_2CH=CHCH(CH_3)_2$, $CH_2CH=CHCH_2CH(CH_3)_2$, $CH_2CH=CHC(CH_3)_3$ and $CH_2CH=CHCH_2C(CH_3)_3$. Also of note are compounds of Formula I (including but not limited to compounds of Preferred 1, Preferred 2, Preferred 2a, Preferred 3, Preferred 3a, Preferred 4, Preferred 4a, Preferred 5, Preferred 5a and Preferred 5b) wherein R^6 is $(CH_2)_3C(CH_3)_3$ or $CH(CH_3)CH_2CH_2C(CH_3)_3$,

10 Preferred 6. Compounds of Preferred 4 wherein

R^1 is H; and

R^6 is C_1 - C_4 alkyl substituted with one or more substituents selected from the group consisting of C_2 - C_6 alkylthio, C_1 - C_6 alkylsulfinyl, C_2 - C_6 alkoxy carbonyl, C_2 - C_8 dialkylamino, C_2 - C_6 alkyl carbonyl, C_3 - C_9 alkoxyalkyl carbonyl, C_2 - C_6 alkylaminocarbonyl, C_3 - C_8 dialkylaminocarbonyl, C_3 - C_9 trialkylsilyl, C_3 - C_9 halotrialkylsilyl, C_4 - C_9 alkoxytrialkylsilyl or C_3 - C_9 trialkylsilyloxy.

Preferred 6a. Compounds of Preferred 6 wherein

R^2 , R^3 , R^4 and R^5 are each methyl; and

20 R^6 is C_1 - C_4 alkyl substituted with one or more substituents selected from the group consisting of C_2 - C_6 alkylthio, C_1 - C_6 alkylsulfinyl, C_2 - C_6 alkoxy carbonyl, C_2 - C_8 dialkylamino, C_2 - C_6 alkyl carbonyl, C_3 - C_9 alkoxyalkyl carbonyl, C_2 - C_6 alkylaminocarbonyl, C_3 - C_8 dialkylaminocarbonyl, C_3 - C_9 trialkylsilyl or C_3 - C_9 trialkylsilyloxy.

25 Preferred 6b. Compounds of Preferred 6 wherein R^2 and R^3 are each methyl or ethyl.

Of note are compounds of Formula I (including but not limited to compounds of Preferred 1, Preferred 2, Preferred 2a, Preferred 3, Preferred 3a, Preferred 4, Preferred 4a, Preferred 5, Preferred 5a, Preferred 5b, Preferred 6, Preferred 6a and Preferred 6b) wherein R^6 is alkyltrialkylsilyl. Also of note are compounds of Formula I (including but not limited to compounds of Preferred 1, Preferred 2, Preferred 2a, Preferred 3, Preferred 3a, Preferred 4, Preferred 4a, Preferred 5, Preferred 5a, Preferred 5b, Preferred 6, Preferred 6a and Preferred 6b) wherein R^6 is alkyltrialkylsilyloxy. Examples include compounds wherein R^6 is selected from the group consisting of (e) the alkyltrialkylsilyl moieties $CH_2Si(CH_3)_3$, $CH_2CH_2Si(CH_3)_3$, $CH_2CH_2CH_2Si(CH_3)_3$, $CH_2CH_2CH_2CH_2Si(CH_3)_3$, $CH_2Si(C_2H_5)_3$, $CH_2CH_2Si(C_2H_5)_3$, $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$, $CH_2CH_2CH_2Si(C_2H_5)_3$, $CH_2CH_2CH_2CH_2Si(C_2H_5)_3$, $CH_2Si(CH(CH_3)_2)_3$, $CH_2CH_2Si(CH(CH_3)_2)_3$, $CH_2CH_2CH_2Si(CH(CH_3)_2)_3$, $CH_2CH_2CH_2CH_2Si(CH(CH_3)_2)_3$, $CH_2Si(CH_3)_2C(CH_3)_3$, $CH_2CH_2Si(CH_3)_2C(CH_3)_3$, $CH_2CH_2CH_2Si(CH_3)_2C(CH_3)_3$ and

CH₂CH₂CH₂CH₂Si(CH₃)₂C(CH₃)₃ and (f) the alkyltrialkylsilyloxy moieties
 CH₂OSi(CH₃)₃, CH₂CH₂OSi(CH₃)₃, CH₂CH₂CH₂OSi(CH₃)₃,
 CH₂CH₂CH₂CH₂OSi(CH₃)₃, CH₂OSi(C₂H₅)₃, CH₂CH₂OSi(C₂H₅)₃,
 CH₂CH₂CH₂OSi(C₂H₅)₃, CH₂CH₂CH₂CH₂OSi(C₂H₅)₃, CH₂OSi(CH(CH₃)₂)₃,
 5 CH₂CH₂OSi(CH(CH₃)₂)₃, CH₂CH₂CH₂OSi(CH(CH₃)₂)₃,
 CH₂CH₂CH₂CH₂OSi(CH(CH₃)₂)₃, CH₂OSi(CH₃)₂C(CH₃)₃, CH₂CH₂OSi(CH₃)₂C(CH₃)₃,
 CH₂CH₂CH₂OSi(CH₃)₂C(CH₃)₃ and CH₂CH₂CH₂CH₂OSi(CH₃)₂C(CH₃)₃.

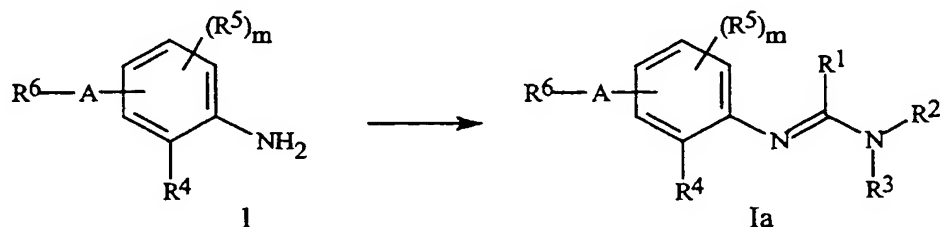
This invention also relates to fungicidal compositions comprising fungicidally
 effective amounts of the compounds of the invention and at least one additional component
 10 selected from the group consisting surfactants, solid diluents and liquid diluents. The
 preferred compositions of the present invention are those which comprise the above
 preferred compounds.

This invention also relates to a method for controlling plant diseases caused by fungal
 plant pathogens comprising applying to the plant or portion thereof, or to the plant seed or
 15 seedling, a fungicidally effective amount of the compounds of the invention (e.g., as a
 composition described herein). The preferred methods of use are those involving the above
 preferred compounds.

The compounds of Formula I can be prepared by one or more of the following methods
 and variations as described in Schemes 1-9. The definitions of R¹ to R¹², A, m and n in the
 20 compounds of Formulae 1-13 below are as defined above in the Summary of the Invention
 and Details of the Invention unless otherwise stated. Compounds of Formulae Ia-Ig are
 various subsets of the compounds of Formula I, and all substituents for Formulae Ia-Ig are as
 defined above for Formula I unless otherwise stated.

As illustrated in Scheme 1, compounds of Formula Ia can be prepared from anilines of
 25 Formula 1. There are a variety of methods for this transformation. The following four
 methods are especially useful.

Scheme 1



30 wherein R¹ is H; C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl, C₂-C₅
 alkoxy carbonyl, a C₃-C₆ carbocycle or C₃-C₆ heterocycle.

Method 1: Treatment of an aniline of Formula 1 with an acetal of formula $R^2R^3NC(R^1)(OR^{13})_2$, wherein R^{13} is an alkyl. For a leading reference to this method see, Toste et al, *Synth. Commun.* **1994**, 24(11), 1617-1624.

Method 2: Treatment of an aniline of Formula 1 with an amide of formula $R^1C(=O)NR^2R^3$ in the presence of a halogenating reagent such as, but not limited to, $POCl_3$ or $SOCl_2$. For a leading reference to this method see, Bergman et al, *Tetrahedron*, **1990**, 46(17), 6058-6112.

Method 3: Treatment of an aniline of Formula 1 with an orthoester of formula $R^1C(OR^{13})_3$, wherein R^{13} is alkyl, to form a corresponding iminoether followed by heating the iminoether with an amine of formula HNR^2R^3 . For a leading reference to this method see, Pissiotas et al, US 4209319.

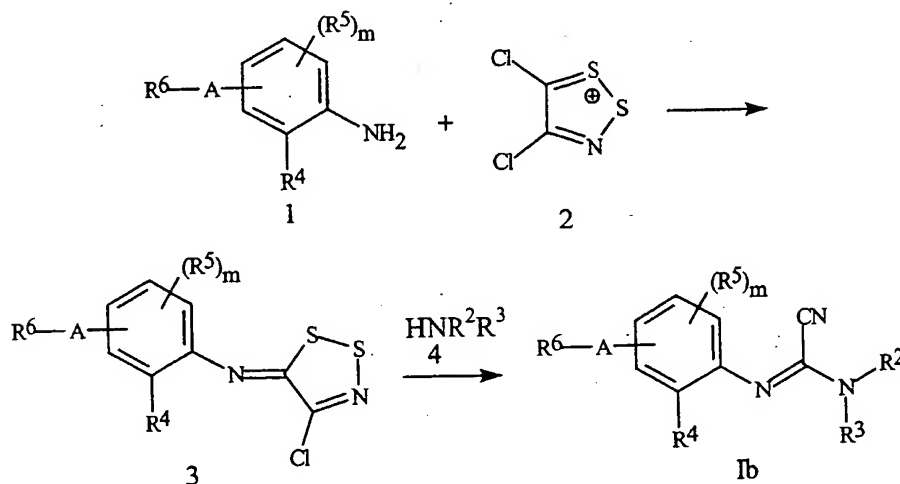
Method 4: Treatment of an aniline of Formula 1 with phosgene to form an isocyanate followed by reaction of the isocyanate with an amide of formula $R^1C(=O)NR^2R^3$. For a leading reference to this method see, Charles et al, WO 00/46184.

Method 5: Treatment of an aniline of Formula 1 with $C_2H_5OCH=NCN$ to form an *N*-cyanoamidine followed by reaction of the *N*-cyanoamidine with an amine of formula HNR^2R^3 . For a leading reference to this method see, Charles et al, WO 00/46184.

Compounds of Formula Ib, can be prepared by the method outlined in Scheme 2. Treatment of a compound of Formula 1 with 4,5-dichloro-1,2,3-dithiazolium chloride (Formula 2) affords the corresponding 4-chloro-5-(phenylimino)-5*H*-1,2,3-dithiazole (Formula 3). Reaction of the said dithiazole with an amine of Formula 4 in a suitable organic solvent such as, but not limited to, dichloromethane at room temperature provides the compound of Formula Ib. For a leading reference to this method see, Lee et al, *J. Org. Chem.*, **1993**, 58(25), 7001-7008.

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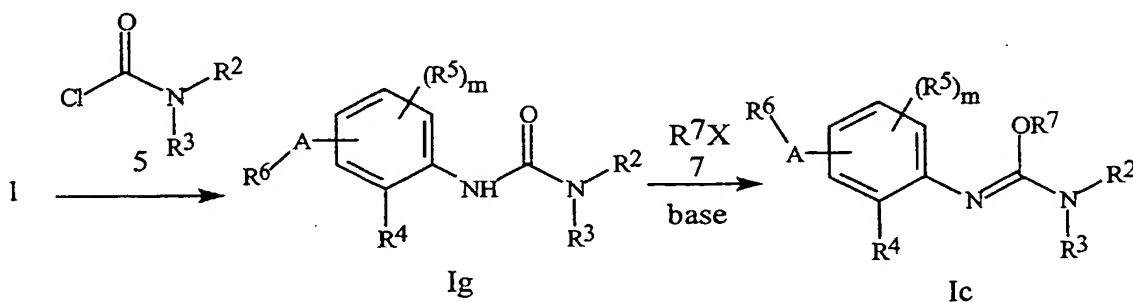
Scheme 2



Compounds of Formula Ic, can be prepared by the method outlined in Scheme 3. Reaction of an aniline of Formula 1 with a carbamoyl chloride of Formula 5 provides the urea of Formula Ig. The urea of Formula Ig is then *O*-alkylated to form the compound of Formula Ic by contact with an alkylating agent of Formula 7 (R^7X) in the presence of a base.

5 In the alkylating agent of Formula 7, X is a nucleophilic reaction leaving group such as halogen (e.g., Br, I), $OS(O)_2CH_3$ (methanesulfonate), $OS(O)_2CF_3$, $OS(O)_2Ph$ -*p*-CH₃ (*p*-toluenesulfonate), and the like. The suitable bases can be, for example but not limited to, potassium carbonate (K_2CO_3) or silver oxide (Ag_2O). For a leading reference to this method see, Curtis et al, *Aust. J. Chem.*, **1988**, 41(4), 585-595.

Scheme 3



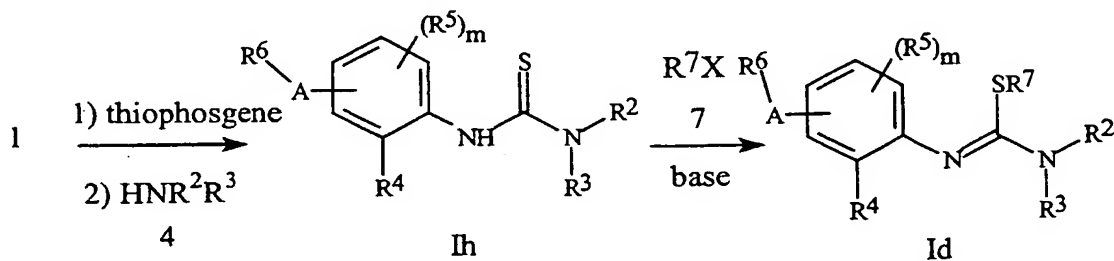
wherein X is a leaving group.

Compounds of Formula Id, can be prepared by the method outlined in Scheme 4.

15 Treatment of an aniline of Formula 1 with thiophosgene (or its equivalent) provides the corresponding isothiocyanate. The isothiocyanate is then reacted with an amine of Formula 4 to afford the thiourea of Formula Ih. The thiourea of Formula Ih is then alkylated to give the compound of Formula Id by contact with an alkylating agent of Formula 7 (R^7X). The suitable bases can be, for example but not limited to, potassium hydroxide. For a leading

20 reference to this method see, Filop et al, *Tetrahedron*, **1985**, 41(24), 5981-5988.

Scheme 4

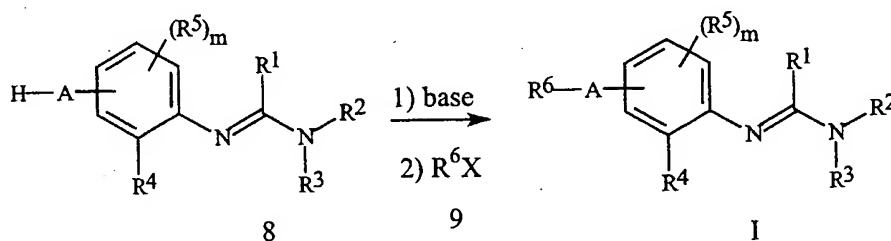


wherein X is a leaving group.

Of note is that R^2 and R^3 groups in compounds of Formula I can be converted to other R^2 and R^3 groups as defined above, by treatment with an appropriate amine or by acylation or alkylation when R^2 or R^3 is hydrogen.

As illustrated in Scheme 5, a compound of Formula I can also be prepared by alkylation of a compound of Formula 8 with an alkylating agent of Formula 9 in the presence of a base. Compounds of Formula 8 are known compounds or can be prepared by literature procedures (*J. Med. Chem.*, **1984**, 27(12), 1705-10; EP 94052 and WO 00/46184). In the alkylating agent of Formula 9, X is a nucleophilic reaction leaving group as defined above for Formula 7. The reaction is conducted in the presence of at least one equivalent of a base, preferably from 1 to 2 equivalents. Suitable bases include inorganic bases, such as alkali metal (such as lithium, sodium or potassium) hydrides, carbonates and hydroxides, and organic bases, such as triethylamine, diisopropylethylamine and 1,8-diazabicyclo-[5.4.0]undec-7-ene. The reaction is generally conducted in a solvent, which can comprise aromatic solvents such as benzene and toluene, ethers such as tetrahydrofuran and diethyl ether, and polar aprotic solvents such as acetonitrile, *N,N*-dimethylformamide, and the like. The reaction is generally conducted between about -20 and 150 °C, and preferably between 20 and 140 °C. The reaction time can range from 1 hour to 7 days. The compound of Formula I can be isolated by conventional techniques such as extraction. Further experimental details for the method of Scheme 5 are illustrated in Example 1.

Scheme 5

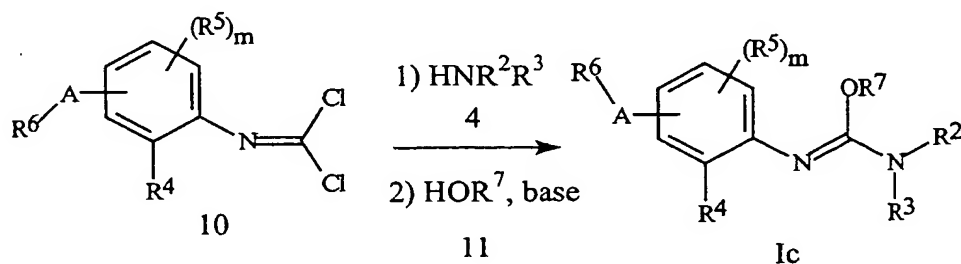


wherein A is O, S or NR^{10} ; and X is a nucleophilic reaction leaving group.

In addition, reductive amination of a compound of Formula 8, wherein A is NH , in the presence of an aldehyde or a ketone can also provide the compound of Formula I, wherein R^6 is an optionally substituted alkyl group. Reaction conditions for the reductive amination are taught in *J. Med. Chem.*, **1984**, 17(12), 1705-1710, and references cited within.

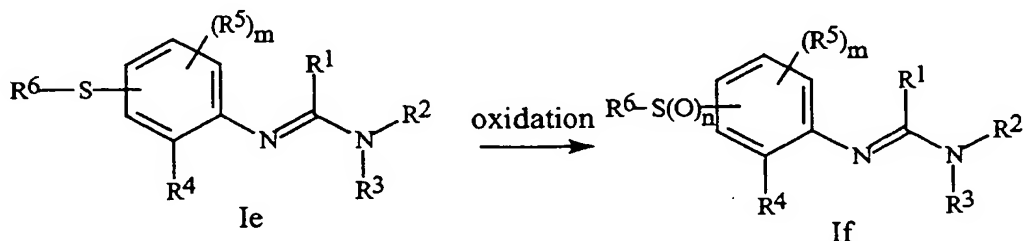
As an alternative to the method illustrated in Scheme 3, compounds of Formula Ic can also be prepared by the method outlined in Scheme 6. Heating a phenyl isocyanide dichloride of Formula 10 with an amine of Formula 4 provides the corresponding imidoyl intermediate. Treatment of the imidoyl intermediate with an alcohol of Formula 11 in the presence of an inert base such as, but not limited to, triethylamine, gives the compound of Formula Ic. For references to this method see, Filop et al, *Izv. Akad. Nauk SSSR, Ser. Khim.*, **1989**, (11), 2596-2601, and references cited within. The phenyl isocyanide dichloride of Formula 10 can be prepared by literature procedures (*J. Chem. Soc., Perkin Trans. 1*, **1987**, (5), 1069-1076; *Tetrahedron Lett.*, **1982**, 23(35), 3539-3542; *Chem. Ber.*, **1987**, 120(3), 421-424).

Scheme 6



Compounds of Formula If can be prepared by oxidation of compounds of Formula Ie as illustrated in Scheme 7. The oxidizing agent can be peracetic acid, hydrogen peroxide, potassium permanganate, sodium periodate or 3-chloroperoxybenzoic acid. The solvent can be, for example but not limited to, dichloromethane, acetic acid or water. Detailed conditions for this method can be found in *J. Med. Chem.*, **1996**, 39(26), 5072-5082, *J. Med. Chem.*, **1983**, 26(1), 107-110, and references cited within.

Scheme 7

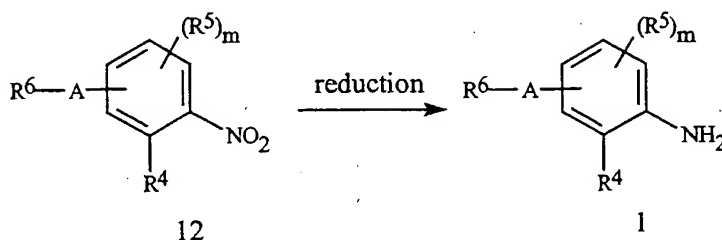


wherein n is 1 or 2.

Compounds of Formula 1 can be prepared by reduction of the nitro group in compounds of Formula 12. There are many methods for this reduction reaction. Preferred methods include stannous chloride reduction in concentrated hydrochloric acid (*J. Med.*

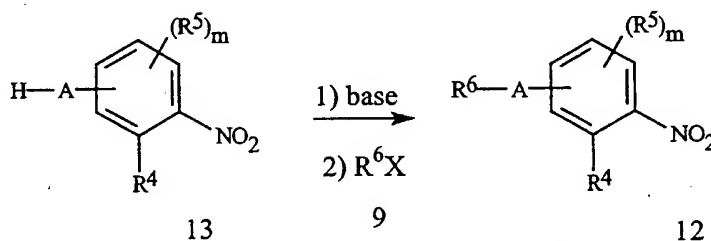
Chem., **1984**, 24(12), 1705-1710) and iron powder reduction in a solution of acetic acid and water (*J. Org. Chem.*, **2001**, 66(13), 4563-4575).

Scheme 8



- 5 As illustrated in Scheme 9, compounds of Formula 12 can be prepared by alkylation of compounds of Formula 13 with an alkylating agent of Formula 9 in the presence of a base. The reaction conditions for this alkylation are already described for the conversion of the compounds of Formula 8 to the compounds of Formula I in Scheme 5. Compounds of Formula 13 are known compounds or can be prepared by literature procedures (*Can. J.*
- 10 *Chem.*, **1984**, 62(8), 1446-51; *Aust. J. Chem.*, **1991**, 44(1), 151-6).

Scheme 9



wherein A is O, S or NR¹⁰; and X is a nucleophilic reaction leaving group.

- 15 Alternatively, compounds of Formula 12, wherein A is O, S or NR¹⁰ and R⁶ is an optionally substituted alkyl group, can also be prepared from compounds of Formula 13 through a Mitsunobu reaction, which involves reaction of a compound of Formula 13 with the appropriate alcohol R⁶OH. The general reaction conditions of Mitsunobu Reaction is well documented in the chemical literature. For a review of the Mitsunobu Reaction see
- 20 Hughes, *Org. React.*, **1992**, 42, 335-656 and references cited within.

- Compounds of Formula 12, wherein A is a direct bond, are available by a variety of known methods. One skilled in art can prepare the compounds of Formula 12 by methods extensively described in the literature; see for example: *Synth. Commun.*, **2001**, 31(14), 2113-2117; *Synth. Commun.*, **1999**, 29(12), 2169-2174; *J. Chem. Res., Synop.*, **1998**, (8), 410, 1701-1714; *J. Chem. Soc., Perkin Trans. 1*, **1998**, (12), 1903-1912; *Synthesis*, **1982**
- 25 (10), 836-9; *J. Org. Chem.*, **1977**, 42(24), 3907-9.

It is recognized that some reagents and reaction conditions described above for preparing compounds of Formula I may not be compatible with certain functionalities present in the intermediates. In these instances, the incorporation of protection/deprotection sequences or functional group interconversions into the synthesis will aid in obtaining the desired products. The use and choice of the protecting groups will be apparent to one skilled in chemical synthesis (see, for example, Greene, T. W.; Wuts, P. G. M. *Protective Groups in Organic Synthesis*, 2nd ed.; Wiley: New York, 1991). One skilled in the art will recognize that, in some cases, after the introduction of a given reagent as it is depicted in any individual scheme, it may be necessary to perform additional routine synthetic steps not described in detail to complete the synthesis of compounds of Formula I. One skilled in the art will also recognize that it may be necessary to perform a combination of the steps illustrated in the above schemes in an order other than that implied by the particular sequence presented to prepare the compounds of Formula I.

One skilled in the art will also recognize that compounds of Formula I and the intermediates described herein can be subjected to various electrophilic, nucleophilic, radical, organometallic, oxidation, and reduction reactions to add substituents or modify existing substituents.

Without further elaboration, it is believed that one skilled in the art using the preceding description can utilize the present invention to its fullest extent. The following Examples are, therefore, to be construed as merely illustrative, and not limiting of the disclosure in any way whatsoever. Percentages are by weight except for chromatographic solvent mixtures or where otherwise indicated. Parts and percentages for chromatographic solvent mixtures are by volume unless otherwise indicated. ¹H NMR spectra are reported in ppm downfield from tetramethylsilane; s = singlet, d = doublet, t = triplet, q = quartet, m = multiplet, dd = doublet of doublets, dt = doublet of triplets, br s = broad singlet.

EXAMPLE 1

Preparation of *N'*-(2,5-Dimethyl-4-[(3-methyl-2-butenyl)-oxy]phenyl)-*N,N*-dimethylmethanimidamide

The title compound was prepared from *N'*-(4-hydroxy-2,5-dimethylphenyl)-*N,N*-dimethylmethanimidamide (prepared as described in WO00/46184). To a suspension of *N'*-(4-hydroxy-2,5-dimethylphenyl)-*N,N*-dimethylmethanimidamide (0.77 g, 4 mmol) in tetrahydrofuran (34 mL) under nitrogen at room temperature was added 60% sodium hydride in mineral oil (170 mg, 4.25 mmol). The mixture was then stirred at room temperature for about 45 minutes followed by addition of 4-bromo-2-methyl-2-butene (0.72 g, 4.8 mmol). The resulting reaction mixture was stirred at room temperature for 2 days and then poured into diethyl ether (250 mL). The organic layer was then washed with 1*N* aqueous sodium hydroxide solution (2x200 mL). The organic layer was then dried over MgSO₄ and filtered.

The filtrate was concentrated to give the title compound (1.02 g), a compound of the present invention, as a brown oil.

^1H NMR (CDCl_3): δ 1.72 (s,3H), 1.78 (s,3H), 2.17 (s,3H), 2.24 (s,3H), 2.99 (s,6H), 4.46 (d,2H), 5.5 (t,1H), 6.55 (s,1H), 6.66 (s,1H), 7.38 (s,1H).

5

EXAMPLE 2

Preparation of N' -[2,5-Dimethyl-4-[(4-methylpentyl)oxy]-phenyl]- N,N -dimethylmethanimidamide

To a suspension of N' -(4-hydroxy-2,5-dimethylphenyl)- N,N -dimethylmethanimidamide (0.52 g, 2.7 mmol) in tetrahydrofuran (~10 mL) under nitrogen at room temperature was added 60% sodium hydride in mineral oil (120 mg, 3 mmol). After the addition, the mixture was stirred at room temperature for 30 minutes, and 1-bromo-4-methylpentane (0.55 g, 3.3 mmol) was added. The resulting reaction mixture was heated at reflux for 24 hours, cooled to room temperature and stirred at room temperature overnight. The reaction mixture was then poured into diethyl ether (100 mL). The organic layer was washed with 1N aqueous sodium hydroxide solution (3x100 mL), dried over MgSO_4 and filtered. The filtrate was concentrated to give the title compound (0.7 g), a compound of this invention, as an oil.

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^1H NMR (CDCl_3): δ 0.91 (d,6H), 1.28-1.82 (m,5H), 2.16 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.89 (t,2H), 6.54 (s,1H), 6.63 (s,1H), 7.37 (s,1H).

20

EXAMPLE 3

Preparation of N' -[2,5-Dimethyl-4-[3-(trimethylsilyl)propoxy]phenyl]- N,N -dimethylmethanimidamide

To a suspension of N' -(4-hydroxy-2,5-dimethylphenyl)- N,N -dimethylmethanimidamide (0.52 g, 2.7 mmol) in p -dioxane (10 mL) under nitrogen at room temperature was added 60% sodium hydride in mineral oil (120 mg, 3 mmol). After the addition, the mixture was stirred at room temperature for 21 minutes, and (3-chloropropyl)trimethylsilane (0.5 g, 3.3 mmol) was added. The resulting reaction mixture was heated at reflux for 4 days and then cooled to room temperature. The reaction mixture was poured into diethyl ether (100 mL). The organic layer was washed with 1N aqueous sodium hydroxide solution (3x100 mL). The organic layer was then dried over MgSO_4 and filtered. The filtrate was concentrated and then dried in a vacuum oven at 90 °C overnight to give the title compound (0.16 g), a compound of this invention, as an oil.

25

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^1H NMR (CDCl_3): δ 0.02 (t,9H), 0.6 (m,2H), 1.7-1.82 (m,2H), 2.17 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.87 (t,2H), 6.54 (s,1H), 6.62 (s,1H), 7.38 (s,1H).

EXAMPLE 4

Preparation of *N'*-[4-[(1-Butylpentyl)oxy]-2,5-dimethylphenyl]-*N,N*-dimethylmethanimidamide

Step A: Preparation of 1-[(1-Butylpentyl)oxy]-2,5-dimethyl-4-nitrobenzene

Diisopropyl azodicarboxylate (0.570 g, 2.82 mmol) was added to the solution of triphenylphosphine (0.739 g, 2.82 mmol) in tetrahydrofuran (15 mL) at 0 °C dropwise. The mixture was stirred at the 0 °C for additional 30 minutes. A mixture of 2,5-dimethyl-4-nitrophenol (0.315 g, 1.9 mmol) and 5-nonanol (0.288 g, 2 mmol) in tetrahydrofuran (10 mL) was added dropwise to the above cold solution. Then the reaction mixture was stirred at 0 °C for 30 min and at room temperature for 1 hour. Tetrahydrofuran was removed under reduced pressure, and the residue was triturated with hexane (100 mL) and filtered. The precipitate was washed with hexane (50 mL). Hexane was removed under reduced pressure, and the residue was purified by column chromatography eluted with dichloromethane to give the title compound (0.4 g) as an oil.

¹H NMR (CDCl₃): δ 0.9 (t,6 H), 1.2-1.4 (m,8 H), 1.6-1.7 (m,4H), 2.15 (s,3H), 2.6 (s,3H), 4.35 (m,H), 6.6 (s,1H), 7.9 (s,1H).

Step B: Preparation of 1-[(1-Butylpentyl)oxy]-2,5-dimethyl-4-benzenamine

1-[(1-Butylpentyl)oxy]-2,5-dimethyl-4-nitrobenzene (i.e. the product from Step A) (0.4 g, 1.39 mmol) was reduced by catalytic hydrogenation using palladium charcoal catalyst (10 wt %, 0.2 g) in ethanol (~20 mL) at 40 psi (276 KPa) hydrogen pressure above ambient for 8 hours. The catalyst was removed by filtration, and the filtrate was concentrated under reduced pressure. The residue was purified by column chromatography eluted with dichloromethane to give the title compound (0.35 g) as an oil.

¹H NMR (CDCl₃): δ 0.9 (t,6H), 1.2-1.4 (m,8H), 1.6-1.7 (m,4H), 2.15 (s,6H), 3.25 (m, 2H), 4.0 (m,1H), 6.42 (s,1H), 6.5 (s,1H).

Step C: Preparation of *N'*-[4-[(1-Butylpentyl)oxy]-2,5-dimethylphenyl]-*N,N*-dimethylmethanimidamide

Dimethylformamide dimethyl acetal (~5 mL) was added to 1-[(1-butylpentyl)oxy]-2,5-dimethyl-4-benzenamine (i.e. the product from Step B) (350 mg) under argon, and the mixture was heated to 100 °C for two hours. The reaction mixture was cooled to room temperature and partitioned between ether (50 mL) and water (50 mL). The organic layer was washed sequentially with water (50 mL) and brine, dried (Na₂SO₄), filtered and concentrated to give the title compound (300 mg), a compound of this invention, as a reddish oil.

¹H NMR (CDCl₃): δ 0.9 (t,6 H), 1.2-1.4 (m,8H), 1.5-1.7 (m,4H), 2.15 (s,3H), 2.2 (s,3H), 3.0 (s,6H), 4.1 (m,H), 6.5 (s,1H), 6.6 (s,1H), 7.4 (s,1H).

EXAMPLE 5

Preparation of *N'*-[5-Chloro-2-methyl-4-[3-(trimethylsilyl)propoxy]phenyl]-*N*-ethyl-*N*-methylmethanimidamide

Step A: Preparation of [3-(2-Chloro-5-methyl-4-nitrophenoxy)propyl]trimethylsilane

5 Diisopropyl azodicarboxylate (2.3 mL, 11.68 mmol), 3-trimethylsilylpropanol (1.41 g, 10.66 mmole), 2-chloro-5-methyl-4-nitrophenol (2.0 g, 10.64 mmol) and triphenylphosphine (3.24 g, 12.35 mmol) were added to tetrahydrofuran (55 mL) at -10 °C. The mixture was then warmed up to room temperature and stirred at room temperature overnight. Tetrahydrofuran was removed under reduced pressure, and the residue was purified by
10 column chromatography (silica gel; eluted with a solution of 5 % ethyl acetate in hexanes) to give the title compound (2.68 g) as a yellow solid, mp 66-68 °C.
¹H NMR (CDCl₃): δ 0.04 (s,9 H), 0.64 (m,2H), 1.86(m,2H), 2.64 (s,3H), 4.05 (t,2H), 6.76 (s,1H), 8.17 (s,1H).

Step B: Preparation of 5-Chloro-2-methyl-4-[3-(trimethylsilyl)propoxy]benzenamine

15 To a mixture of [3-(2-chloro-5-methyl-4-nitrophenoxy)propyl]trimethylsilane (i.e. the product from Step A) (3.5 g, 11.6 mmol) and methanol (16 mL) at room temperature was added concentrated hydrochloric acid (16 mL) and tin(II) chloride (6.64 g, 35.02 mmol) with stirring. The reaction mixture was heated to reflux for 4 hours. Dichloromethane (320 mL)
20 was added to the reaction mixture after it was cooled down to room temperature. The mixture was washed with 4 N sodium hydroxide aqueous solution (110 mL) followed by brine (3x320 mL). The organic layer was separated, dried over MgSO₄, and concentrated to give the title compound (2.97 g) as an oil.
¹H NMR (CDCl₃): δ 0.02 (s,9H), 0.61 (m,2H), 1.76 (m,2H), 2.13 (s,3H), 3.4 (br s,2H), 3.89 (t,2H), 6.69 (s,1H), 6.7 (s,1H).

Step C: Preparation of *N*-[5-Chloro-2-methyl-4-[3-(trimethylsilyl)propoxy]phenyl]-*N'*-cyanomethanimidamide

To a solution of *N*-cyanomethanimidic ethyl ester (1.21 g, 12.35 mmol) in ethanol (16 mL) at room temperature was added dropwise a solution of 5-chloro-2-methyl-4-[3-(trimethylsilyl)propoxy]benzenamine (i.e. the product from Step B) (2.93 g, 10.77 mmol) in
30 ethanol (16 mL). After the addition, the reaction mixture was stirred at room temperature overnight and was then concentrated under reduced pressure. The residue was triturated in a solution of 25 % ethyl acetate in hexanes, and the solid was collected by filtration to give the title compound (2.4 g) as an off-white solid, mp 143-144 °C.
¹H NMR (CDCl₃): δ 0.03 (s,9 H), 0.62 (m,2H), 1.82 (m,2H), 2.28 (m,3H), 3.96 (m,2H),
35 6.78-8.35(m,3H).

Step D: Preparation of *N'*-[5-Chloro-2-methyl-4-[3-(trimethylsilyl)propoxy]phenyl]-*N*-ethyl-*N*-methylethanimidamide

To a suspension of *N*-[5-chloro-2-methyl-4-[3-(trimethylsilyl)propoxy]phenyl]-*N'*-cyanomethanimidamide (i.e. the product from Step C) (174 mg, 0.54 mmol) in acetonitrile (4 mL) at room temperature was added *N*-ethylmethylamine (0.23 mL, 2.68 mmol) dropwise. After the addition, the reaction mixture was stirred at room temperature overnight. Ether (40 mL) was then added to the reaction mixture. The resulting mixture was washed with water (40 mL) and then brine (40 mL). The organic layer was separated, dried over MgSO₄, and concentrated to give the title compound (160 mg), a compound of the present invention, as an oil.

¹H NMR (CDCl₃): δ 0.02 (s, 9H), 0.6 (m, 2H), 1.2 (t, 3H), 1.8 (m, 2H), 2.23 (s, 3H), 2.98 (s, 3H), 3.35 (br s, 2H), 3.93 (t, 2H), 6.74 (s, 1H), 6.77 (s, 1H), 7.4 (s, 1H).

EXAMPLE 6

Preparation of *N'*-[5-Chloro-2-methyl-4-[3-(trimethylsilyl)propoxy]phenyl]-*N*-ethyl-*N*-methylthiourea

Step A: Preparation of [3-(2-Chloro-4-isothiocyanato-5-methylphenoxy)propyl]-trimethylsilane

To a solution of 5-chloro-2-methyl-4-[3-(trimethylsilyl)propoxy]benzenamine (i.e. the product of Example 5, Step B) (1.63 g, 6 mmol) in toluene (50 mL) at 25 °C was added diethylcarbonyl chloride (1.2 g, 7.8 mmol) followed by *N,N*-diisopropylethylamine (1.1 g, 9 mmol). The resulting homogeneous solution was heated to the reflux for 3 h. The solvent was evaporated, and the residue was chromatographed on flash silica gel using ethyl acetate/hexane (1:40) as eluent to give the title compound (1.19 g) as a pale yellow semi-solid.

¹H NMR (CDCl₃): δ 0.00 (s, 9H), 0.60 (m, 2H), 1.80 (m, 2H), 2.40 (s, 3H), 3.85 (t, 2H), 6.60 (s, 1H), 7.00 (s, 1H).

Step B: Preparation of *N'*-[5-Chloro-2-methyl-4-[3-(trimethylsilyl)propoxy]phenyl]-*N*-ethyl-*N*-methylthiourea

To a solution of [3-(2-chloro-4-isothiocyanato-5-methylphenoxy)propyl]-trimethylsilane (i.e. the product from Step A) (310 mg, 1 mmol) in tetrahydrofuran (10 mL) at 25 °C was added *N*-ethylmethylamine (1 g, 17 mmol). The reaction solution was stirred at 25 °C for 30 minutes. The solvent was then evaporated, and hexane was added to the residue to induce crystallization. The solid was collected by filtration and washed with a solution of ether/hexane (1:5) (20 mL) to give the title compound (255 mg), a compound of the present invention, as an off-white solid, mp 71-72 °C.

¹H NMR (CDCl₃): δ 0.00 (s, 9H), 0.60 (m, 2H), 1.25 (t, 3H), 1.80 (m, 2H), 2.20 (s, 3H), 3.20 (s, 3H), 3.85 (q, 2H), 3.90 (t, 2H), 6.70 (br s, 1H), 6.75 (s, 1H), 7.15 (s, 1H)

EXAMPLE 7

Preparation of *N*'-[5-Chloro-2-(methylthio)-4-[3-(trimethylsilyl)propoxy]phenyl]-*N*-cyclopropyl-*N*-methylmethanimidamide

Step A: Preparation of [3-(2,5-Dichloro-4-nitrophenoxy)propyl]trimethylsilane

5 Diisopropyl azodicarboxylate (10.4 mL, 53 mmol), 3-trimethylsilylpropanol (6.4 g, 48 mmol), 2,5-dichloro-4-nitrophenol (10.0 g, 48 mmol) and triphenylphosphine (12.6 g, 48 mmol) were added to tetrahydrofuran (100 mL) at -10 °C. The mixture was then warmed up to room temperature overnight. Tetrahydrofuran was removed under reduced pressure, and the residue was triturated with hexanes (~200 mL). The solid was filtered off. The
10 filtrate was then concentrated, and the residue was purified by silica gel column chromatography eluted with hexanes followed 2% ethyl acetate in hexanes to give the title compound (13.5 g) as a yellow solid, mp 45-48 °C.
¹H NMR (CDCl₃): δ 0.05 (s,9H), 0.65 (m,2H), 1.89(m,2H), 4.07 (t,2H), 7.00 (s,1H), 8.12 (s,1H).

15 Step B: Preparation of [3-[2-Chloro-5-(methylthio)-4-nitrophenoxy]propyl]trimethylsilane

To a solution of [3-(2,5-dichloro-4-nitrophenoxy)propyl]trimethylsilane (4.6 g, 14.3 mmol) (i.e. the product from Step A) in *N,N*-dimethylformamide (40 mL) was added sodium thiomethoxide (1.3 g, 18.6 mmol) at room temperature. The reaction mixture was heated to 100 °C for 2 days. The reaction mixture was then partitioned between ether (100
20 mL) and water (150 mL). The organic layer was washed with water (3x50 mL), separated, dried over MgSO₄, filtered and concentrated. The residue was purified by silica gel column chromatography using hexanes/butyl chloride (3:1) as eluent to give the title compound (2.7g) as an orange solid, mp 51-53 °C.
¹H NMR (CDCl₃): δ 0.05 (s,9H), 0.65 (m,2H), 1.89(m,2H), 2.49 (s,3H), 4.09 (t,2H), 6.69
25 (s,1H), 8.35 (s,1H).

Step C: Preparation of 5-Chloro-2-(methylthio)-4-[3-(trimethylsilyl)propoxy]benzenamine

To a solution of [3-[2-chloro-5-(methylthio)-4-nitrophenoxy]propyl]trimethylsilane (i.e. the product from Step B) (2.7 g, 8.91 mmol) in methanol (5 mL) and concentrated hydrochloric acid (5 mL) was added tin(II) chloride (5.1 g, 26.7 mmol). The reaction
30 mixture was heated to reflux for 4 hours. The reaction mixture was cooled to room temperature, and the methanol solvent was removed under reduced pressure. The reaction mixture was partitioned between dichloromethane (~50 mL) and 4 N aqueous sodium hydroxide solution (4x50 mL). The organic layer was separated, dried over MgSO₄, and concentrated to give the title compound (2.0 g) as a brown oil.
35 ¹H NMR (CDCl₃): δ 0.02 (s,9H), 0.61 (m,2H), 1.78 (m,2H), 2.35 (s,3H), 3.92 (t,2H), 4.04 (br s, 2H), 6.78 (s,1H), 6.98 (s,1H).

Step D: Preparation of *N*'-[5-Chloro-2-(methylthio)-4-[3-(trimethylsilyl)propoxy]phenyl]-*N*'-cyanomethanimidamide

To a solution of *N*-cyanomethanimidic ethyl ester (0.84 g, 8.6 mmol) in ethanol (5 mL) at room temperature was added to a solution of 5-chloro-2-(methylthio)-4-[3-(trimethylsilyl)propoxy]benzenamine (i.e. the product from Step C) (2.0 g, 6.6 mmol) in ethanol (10 mL) dropwise. After the addition, the reaction mixture was stirred at room temperature for 2 days and then concentrated under reduced pressure. The residue was purified by silica gel column chromatography using ethyl acetate/hexanes (1:2) as eluent to give the title compound (1.8 g) as an orange solid, mp 94-96 °C.

¹H NMR (CDCl₃): δ 0.03 (s,9H), 0.62 (m,2H), 1.84 (m,2H), 2.39 (m,3H), 3.96 (t,2H), 6.97-8.37 (m,3H).

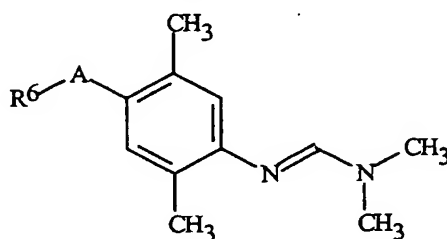
10 Step E: Preparation of *N*'-[5-Chloro-2-(methylthio)-4-[3-(trimethylsilyl)propoxy]phenyl]-*N*-cyclopropyl-*N*-methylmethanimidamide

To a suspension of *N*-[5-chloro-2-(methylthio)-4-[3-(trimethylsilyl)propoxy]phenyl]-*N*'-cyanomethanimidamide (i.e. the product from Step D) (200 mg, 0.56 mmol) in acetonitrile (5 mL) at room temperature was added dropwise a solution of *N*-cyclopropylmethylamine in ether (7.6 mL, 0.74 M, 5.6 mmol). After the addition, the reaction mixture was stirred at room temperature overnight. The reaction mixture was then concentrated under reduced pressure, and the residue was purified by silica gel column chromatography using ethyl acetate/hexanes (1:2) as eluent to give the title compound (120 mg), a compound of the present invention, as a tan solid, mp 62-64 C.

20 ¹H NMR (CDCl₃): δ 0.02 (s,9H), 0.6-0.8 (m,6H), 1.82 (m,2H), 2.4 (s,3H), 2.7 (m,1H), 3.23 (s,3H), 3.96 (t,2H), 6.69 (s,1H), 6.79 (s,1H), 7.64 (s,1H).

By the procedures described herein together with methods known in the art, the following compounds of Tables 1 to 13 can be prepared. The following abbreviations are used in the Tables which follow: *t* means tertiary, *s* means secondary, *n* means normal, *i* means iso, *c* means cyclo, Pr means propyl, *i*-Pr means isopropyl, *c*-Pr means cyclopropyl, Bu means butyl, and CN means cyano.

TABLE 1



| <u>A</u> | <u>R⁶</u> | <u>A</u> | <u>R⁶</u> |
|----------|---|----------|---|
| O | (CH ₂) ₄ CH ₃ | S | (CH ₂) ₄ CH ₃ |
| O | (CH ₂) ₃ C(CH ₃) ₂ OC ₂ H ₅ | S | (CH ₂) ₃ C(CH ₃) ₂ OC ₂ H ₅ |
| O | (CH ₂) ₅ CH ₃ | S | (CH ₂) ₅ CH ₃ |

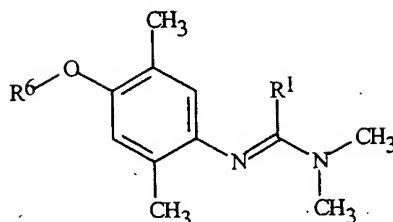
| A | R^6 |
|---|--------------------------------------|
| O | $(CH_2)_6CH_3$ |
| O | $(CH_2)_3C(CH_3)_2Br$ |
| O | $(CH_2)_7CH_3$ |
| O | $(CH_2)_3CH(CH_3)_2$ |
| O | $(CH_2)_3C(CH_3)_3$ |
| O | $(CH_2)_3Si(CH_3)_3$ |
| O | $(CH_2)_2CH(CH_3)CH_2C(CH_3)_3$ |
| O | $(CH_2)_3C(=CH_2)CH(CH_3)_2$ |
| O | $(CH_2)_3CH(CH_3)C_2H_5$ |
| O | $(CH_2)_2OSi(CH_3)_2C(CH_3)_3$ |
| O | $(CH_2)_2OC(CH_3)_3$ |
| O | $(CH_2)_2SC(CH_3)_3$ |
| O | $(CH_2)_2SCH(CH_3)_2$ |
| O | $CH_2CH=CHC(CH_3)_3$ |
| O | $CH_2CH=CHCH(CH_3)_2$ |
| O | $(CH_2)_2S(=O)C(CH_3)_3$ |
| O | $(CH_2)_3OSi(CH_3)_2C(CH_3)_3$ |
| O | $(CH_2)_2OCH(CH_3)_2$ |
| O | $(CH_2)_3OC(CH_3)_3$ |
| O | $(CH_2)_3P(=O)(CH_3)_2$ |
| O | $CH_2C(=O)CH_2C(CH_3)_3$ |
| O | $CH(CH_3)(CH_2)_3CH_3$ |
| O | $CH(CH_3)CH_2CH_2CH(CH_3)_2$ |
| O | $CH(CH_3)CH_2CH_2C(CH_3)_3$ |
| O | $CH(C_2H_5)CH_2CH_2CH(CH_3)_2$ |
| O | $CH(CH_2CH_2CH_3)CH_2CH_2CH(CH_3)_2$ |
| O | $CH(CH_2CH_2CH(CH_3)_2)_2$ |
| O | $CH_2CH_2CH_2N(CH_3)_2$ |
| O | $CH_2CH_2N(CH_3)C(CH_3)_3$ |
| O | $CH_2CH_2N(CH_3)CH(CH_3)_2$ |
| O | $CH_2CH=C(CH_3)_2$ |
| O | $(CH_2)_3C(CH_3)_2OCH_3$ |
| O | $(CH_2)_3C(CH_3)_2Cl$ |
| O | $CH_2CH_2CH=C(CH_3)_2$ |
| O | $(CH_2)_8CH_3$ |
| O | $(CH_2)_9CH_3$ |
| O | $(CH_2)_{11}CH_3$ |

| A | R^6 |
|---|--------------------------------------|
| S | $(CH_2)_6CH_3$ |
| S | $(CH_2)_3C(CH_3)_2Br$ |
| S | $(CH_2)_7CH_3$ |
| S | $(CH_2)_3CH(CH_3)_2$ |
| S | $(CH_2)_3C(CH_3)_3$ |
| S | $(CH_2)_3Si(CH_3)_3$ |
| S | $(CH_2)_2CH(CH_3)CH_2C(CH_3)_3$ |
| S | $(CH_2)_3C(=CH_2)CH(CH_3)_2$ |
| S | $(CH_2)_3CH(CH_3)C_2H_5$ |
| S | $(CH_2)_2OSi(CH_3)_2C(CH_3)_3$ |
| S | $(CH_2)_2OC(CH_3)_3$ |
| S | $(CH_2)_2SC(CH_3)_3$ |
| S | $(CH_2)_2SCH(CH_3)_2$ |
| S | $CH_2CH=CHC(CH_3)_3$ |
| S | $CH_2CH=CHCH(CH_3)_2$ |
| S | $(CH_2)_2S(=O)C(CH_3)_3$ |
| S | $(CH_2)_3OSi(CH_3)_2C(CH_3)_3$ |
| S | $(CH_2)_2OCH(CH_3)_2$ |
| S | $(CH_2)_3OC(CH_3)_3$ |
| S | $(CH_2)_3P(=O)(CH_3)_2$ |
| S | $CH_2C(=O)CH_2C(CH_3)_3$ |
| S | $CH(CH_3)(CH_2)_3CH_3$ |
| S | $CH(CH_3)CH_2CH_2CH(CH_3)_2$ |
| S | $CH(CH_3)CH_2CH_2C(CH_3)_3$ |
| S | $CH(C_2H_5)CH_2CH_2CH(CH_3)_2$ |
| S | $CH(CH_2CH_2CH_3)CH_2CH_2CH(CH_3)_2$ |
| S | $CH(CH_2CH_2CH(CH_3)_2)_2$ |
| S | $CH_2CH_2CH_2N(CH_3)_2$ |
| S | $CH_2CH_2N(CH_3)C(CH_3)_3$ |
| S | $CH_2CH_2N(CH_3)CH(CH_3)_2$ |
| S | $CH_2CH=C(CH_3)_2$ |
| S | $(CH_2)_3C(CH_3)_2OCH_3$ |
| S | $(CH_2)_3C(CH_3)_2Cl$ |
| S | $CH_2CH_2CH=C(CH_3)_2$ |
| S | $(CH_2)_8CH_3$ |
| S | $(CH_2)_9CH_3$ |
| S | $(CH_2)_{11}CH_3$ |

| <u>A</u> | <u>R⁶</u> |
|----------|---|
| O | C(=O)OCH ₂ C(CH ₃) ₃ |
| O | (CH ₂) ₄ CH(CH ₃) ₂ |
| O | C(=O)OCH(C ₂ H ₅)C(CH ₃) ₃ |
| O | C(=O)OC(CH ₃) ₂ C(CH ₃) ₃ |
| O | C(=O)NHCH ₂ C(CH ₃) ₃ |
| O | C(=O)N(CH ₃)CH ₂ C(CH ₃) ₃ |
| O | CH ₂ CH ₂ CH ₂ CH=C(CH ₃) ₂ |
| O | C(=O)CH ₂ SC(CH ₃) ₃ |
| O | (CH ₂) ₄ Cl |
| O | (CH ₂) ₅ Cl |
| O | (CH ₂) ₂ CH(CH ₃)(CH ₂) ₃ CH(CH ₃) ₂ |
| O | (S)-(CH ₂) ₂ CH(CH ₃)CH ₂ CH ₂ CH=C(CH ₃) ₂ |
| O | (R)-(CH ₂) ₂ CH(CH ₃)CH ₂ CH ₂ CH=C(CH ₃) ₂ |
| O | (CH ₂) ₂ CH(CH ₃) ₂ |
| O | (CH ₂) ₂ C(CH ₃) ₃ |
| O | CH ₂ C(=O)C(CH ₃) ₃ |
| O | CH ₂ CH=C(CH ₃)(CH ₂) ₂ CH=C(CH ₃) ₂ |
| O | CH ₂ (CH=C(CH ₃)(CH ₂) ₂) ₂ CH=C(CH ₃) ₂ |
| O | (CH ₂) ₃ CH=CH ₂ |
| O | (CH ₂) ₄ CH=CH ₂ |
| O | CH(C ₂ H ₅) ₂ |
| O | CH(CH ₂ CH ₂ CH ₃) ₂ |
| O | CH(CH ₂ CH ₂ CH ₂ CH ₃) ₂ |
| O | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH ₂ CH ₃ |
| O | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃)(C ₂ H ₅) |
| O | CH(CH ₂ CH ₂ CH ₂ CH ₂ CH ₃) ₂ |
| O | CH(CH ₂ CH ₂ CH ₂ CH ₃)(CH ₂) ₅ CH ₃ |
| O | CH(C ₂ H ₅)CH ₂ CH ₂ C(=CH ₂)CH ₃ |

| <u>A</u> | <u>R⁶</u> |
|----------|---|
| S | C(=O)OCH ₂ C(CH ₃) ₃ |
| S | (CH ₂) ₄ CH(CH ₃) ₂ |
| S | C(=O)OCH(C ₂ H ₅)C(CH ₃) ₃ |
| S | C(=O)OC(CH ₃) ₂ C(CH ₃) ₃ |
| S | C(=O)NHCH ₂ C(CH ₃) ₃ |
| S | C(=O)N(CH ₃)CH ₂ C(CH ₃) ₃ |
| S | CH ₂ CH ₂ CH ₂ CH=C(CH ₃) ₂ |
| S | C(=O)CH ₂ SC(CH ₃) ₃ |
| S | (CH ₂) ₄ Cl |
| S | (CH ₂) ₅ Cl |
| S | (CH ₂) ₂ CH(CH ₃)(CH ₂) ₃ CH(CH ₃) ₂ |
| S | (S)-(CH ₂) ₂ CH(CH ₃)CH ₂ CH ₂ CH=C(CH ₃) ₂ |
| S | (R)-(CH ₂) ₂ CH(CH ₃)CH ₂ CH ₂ CH=C(CH ₃) ₂ |
| S | (CH ₂) ₂ CH(CH ₃) ₂ |
| S | (CH ₂) ₂ C(CH ₃) ₃ |
| S | CH ₂ C(=O)C(CH ₃) ₃ |
| S | CH ₂ CH=C(CH ₃)(CH ₂) ₂ CH=C(CH ₃) ₂ |
| S | CH ₂ (CH=C(CH ₃)(CH ₂) ₂) ₂ CH=C(CH ₃) ₂ |
| S | (CH ₂) ₃ CH=CH ₂ |
| S | (CH ₂) ₄ CH=CH ₂ |
| S | CH(C ₂ H ₅) ₂ |
| S | CH(CH ₂ CH ₂ CH ₃) ₂ |
| S | CH(CH ₂ CH ₂ CH ₂ CH ₃) ₂ |
| S | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH ₂ CH ₃ |
| S | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃)(C ₂ H ₅) |
| S | CH(CH ₂ CH ₂ CH ₂ CH ₂ CH ₃) ₂ |
| S | CH(CH ₂ CH ₂ CH ₂ CH ₃)(CH ₂) ₆ CH ₃ |
| S | CH(C ₂ H ₅)CH ₂ CH ₂ C(=CH ₂)CH ₃ |

TABLE 2

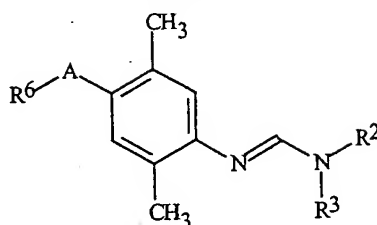


| <u>R¹</u> | <u>R⁶</u> | <u>R¹</u> | <u>R⁶</u> |
|----------------------|---|----------------------|---|
| CH ₃ | (CH ₂) ₄ CH ₃ | OCH ₃ | (CH ₂) ₄ CH ₃ |
| CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ OC ₂ H ₅ | OCH ₃ | (CH ₂) ₃ C(CH ₃) ₂ OC ₂ H ₅ |
| CH ₃ | (CH ₂) ₅ CH ₃ | OCH ₃ | (CH ₂) ₅ CH ₃ |
| CH ₃ | (CH ₂) ₆ CH ₃ | OCH ₃ | (CH ₂) ₆ CH ₃ |
| CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ Br | OCH ₃ | (CH ₂) ₃ C(CH ₃) ₂ Br |
| CH ₃ | (CH ₂) ₇ CH ₃ | OCH ₃ | (CH ₂) ₇ CH ₃ |
| CH ₃ | (CH ₂) ₃ CH(CH ₃) ₂ | OCH ₃ | (CH ₂) ₃ CH(CH ₃) ₂ |
| CH ₃ | (CH ₂) ₃ C(CH ₃) ₃ | OCH ₃ | (CH ₂) ₃ C(CH ₃) ₃ |
| CH ₃ | (CH ₂) ₃ Si(CH ₃) ₃ | OCH ₃ | (CH ₂) ₃ Si(CH ₃) ₃ |
| CH ₃ | (CH ₂) ₂ CH(CH ₃)CH ₂ C(CH ₃) ₃ | OCH ₃ | (CH ₂) ₂ CH(CH ₃)CH ₂ C(CH ₃) ₃ |
| CH ₃ | (CH ₂) ₃ C(=CH ₂)CH(CH ₃) ₂ | OCH ₃ | (CH ₂) ₃ C(=CH ₂)CH(CH ₃) ₂ |
| CH ₃ | (CH ₂) ₃ CH(CH ₃)C ₂ H ₅ | OCH ₃ | (CH ₂) ₃ CH(CH ₃)C ₂ H ₅ |
| CH ₃ | (CH ₂) ₂ OSi(CH ₃) ₂ C(CH ₃) ₃ | OCH ₃ | (CH ₂) ₂ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| CH ₃ | (CH ₂) ₂ OC(CH ₃) ₃ | OCH ₃ | (CH ₂) ₂ OC(CH ₃) ₃ |
| CH ₃ | (CH ₂) ₂ SC(CH ₃) ₃ | OCH ₃ | (CH ₂) ₂ SC(CH ₃) ₃ |
| CH ₃ | (CH ₂) ₂ SCH(CH ₃) ₂ | OCH ₃ | (CH ₂) ₂ SCH(CH ₃) ₂ |
| CH ₃ | CH ₂ CH=CHC(CH ₃) ₃ | OCH ₃ | CH ₂ CH=CHC(CH ₃) ₃ |
| CH ₃ | CH ₂ CH=CHCH(CH ₃) ₂ | OCH ₃ | CH ₂ CH=CHCH(CH ₃) ₂ |
| CH ₃ | (CH ₂) ₂ S(=O)C(CH ₃) ₃ | OCH ₃ | (CH ₂) ₂ S(=O)C(CH ₃) ₃ |
| CH ₃ | (CH ₂) ₃ OSi(CH ₃) ₂ C(CH ₃) ₃ | OCH ₃ | (CH ₂) ₃ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| CH ₃ | (CH ₂) ₂ OCH(CH ₃) ₂ | OCH ₃ | (CH ₂) ₂ OCH(CH ₃) ₂ |
| CH ₃ | (CH ₂) ₃ OC(CH ₃) ₃ | OCH ₃ | (CH ₂) ₃ OC(CH ₃) ₃ |
| CH ₃ | (CH ₂) ₃ P(=O)(CH ₃) ₂ | OCH ₃ | (CH ₂) ₃ P(=O)(CH ₃) ₂ |
| CH ₃ | CH ₂ C(=O)CH ₂ C(CH ₃) ₃ | OCH ₃ | CH ₂ C(=O)CH ₂ C(CH ₃) ₃ |
| CH ₃ | CH(CH ₃)(CH ₂) ₃ CH ₃ | OCH ₃ | CH(CH ₃)(CH ₂) ₃ CH ₃ |
| CH ₃ | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ | OCH ₃ | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | CH(CH ₃)CH ₂ CH ₂ C(CH ₃) ₃ | OCH ₃ | CH(CH ₃)CH ₂ CH ₂ C(CH ₃) ₃ |
| CH ₃ | CH(C ₂ H ₅)CH ₂ CH ₂ CH(CH ₃) ₂ | OCH ₃ | CH(C ₂ H ₅)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ | OCH ₃ | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | CH(CH ₂ CH ₂ CH(CH ₃) ₂) ₂ | OCH ₃ | CH(CH ₂ CH ₂ CH(CH ₃) ₂) ₂ |

| <u>R¹</u> | <u>R⁶</u> | <u>R¹</u> | <u>R⁶</u> |
|-------------------------------|---|----------------------|---|
| CH ₃ | CH ₂ CH ₂ CH ₂ N(CH ₃) ₂ | OCH ₃ | CH ₂ CH ₂ CH ₂ N(CH ₃) ₂ |
| CH ₃ | CH ₂ CH ₂ N(CH ₃)C(CH ₃) ₃ | OCH ₃ | CH ₂ CH ₂ N(CH ₃)C(CH ₃) ₃ |
| CH ₃ | CH ₂ CH ₂ N(CH ₃)CH(CH ₃) ₂ | OCH ₃ | CH ₂ CH ₂ N(CH ₃)CH(CH ₃) ₂ |
| CH ₃ | CH ₂ CH=C(CH ₃) ₂ | OCH ₃ | CH ₂ CH=C(CH ₃) ₂ |
| CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ OCH ₃ | OCH ₃ | (CH ₂) ₃ C(CH ₃) ₂ OCH ₃ |
| CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ Cl | OCH ₃ | (CH ₂) ₃ C(CH ₃) ₂ Cl |
| CH ₃ | CH ₂ CH ₂ CH=C(CH ₃) ₂ | OCH ₃ | CH ₂ CH ₂ CH=C(CH ₃) ₂ |
| C ₂ H ₅ | (CH ₂) ₄ CH ₃ | SCH ₃ | (CH ₂) ₄ CH ₃ |
| C ₂ H ₅ | (CH ₂) ₃ C(CH ₃) ₂ OC ₂ H ₅ | SCH ₃ | (CH ₂) ₃ C(CH ₃) ₂ OC ₂ H ₅ |
| C ₂ H ₅ | (CH ₂) ₅ CH ₃ | SCH ₃ | (CH ₂) ₅ CH ₃ |
| C ₂ H ₅ | (CH ₂) ₆ CH ₃ | SCH ₃ | (CH ₂) ₆ CH ₃ |
| C ₂ H ₅ | (CH ₂) ₃ C(CH ₃) ₂ Br | SCH ₃ | (CH ₂) ₃ C(CH ₃) ₂ Br |
| C ₂ H ₅ | (CH ₂) ₇ CH ₃ | SCH ₃ | (CH ₂) ₇ CH ₃ |
| C ₂ H ₅ | (CH ₂) ₃ CH(CH ₃) ₂ | SCH ₃ | (CH ₂) ₃ CH(CH ₃) ₂ |
| C ₂ H ₅ | (CH ₂) ₃ C(CH ₃) ₃ | SCH ₃ | (CH ₂) ₃ C(CH ₃) ₃ |
| C ₂ H ₅ | (CH ₂) ₃ Si(CH ₃) ₃ | SCH ₃ | (CH ₂) ₃ Si(CH ₃) ₃ |
| C ₂ H ₅ | (CH ₂) ₂ CH(CH ₃)CH ₂ C(CH ₃) ₃ | SCH ₃ | (CH ₂) ₂ CH(CH ₃)CH ₂ C(CH ₃) ₃ |
| C ₂ H ₅ | (CH ₂) ₃ C(=CH ₂)CH(CH ₃) ₂ | SCH ₃ | (CH ₂) ₃ C(=CH ₂)CH(CH ₃) ₂ |
| C ₂ H ₅ | (CH ₂) ₃ CH(CH ₃)C ₂ H ₅ | SCH ₃ | (CH ₂) ₃ CH(CH ₃)C ₂ H ₅ |
| C ₂ H ₅ | (CH ₂) ₂ OSi(CH ₃) ₂ C(CH ₃) ₃ | SCH ₃ | (CH ₂) ₂ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| C ₂ H ₅ | (CH ₂) ₂ OC(CH ₃) ₃ | SCH ₃ | (CH ₂) ₂ OC(CH ₃) ₃ |
| C ₂ H ₅ | (CH ₂) ₂ SC(CH ₃) ₃ | SCH ₃ | (CH ₂) ₂ SC(CH ₃) ₃ |
| C ₂ H ₅ | (CH ₂) ₂ SCH(CH ₃) ₂ | SCH ₃ | (CH ₂) ₂ SCH(CH ₃) ₂ |
| C ₂ H ₅ | CH ₂ CH=CHC(CH ₃) ₃ | SCH ₃ | CH ₂ CH=CHC(CH ₃) ₃ |
| C ₂ H ₅ | CH ₂ CH=CHCH(CH ₃) ₂ | SCH ₃ | CH ₂ CH=CHCH(CH ₃) ₂ |
| C ₂ H ₅ | (CH ₂) ₂ S(=O)C(CH ₃) ₃ | SCH ₃ | (CH ₂) ₂ S(=O)C(CH ₃) ₃ |
| C ₂ H ₅ | (CH ₂) ₃ OSi(CH ₃) ₂ C(CH ₃) ₃ | SCH ₃ | (CH ₂) ₃ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| C ₂ H ₅ | (CH ₂) ₂ OCH(CH ₃) ₂ | SCH ₃ | (CH ₂) ₂ OCH(CH ₃) ₂ |
| C ₂ H ₅ | (CH ₂) ₃ OC(CH ₃) ₃ | SCH ₃ | (CH ₂) ₃ OC(CH ₃) ₃ |
| C ₂ H ₅ | (CH ₂) ₃ P(=O)(CH ₃) ₂ | SCH ₃ | (CH ₂) ₃ P(=O)(CH ₃) ₂ |
| C ₂ H ₅ | CH ₂ C(=O)CH ₂ C(CH ₃) ₃ | SCH ₃ | CH ₂ C(=O)CH ₂ C(CH ₃) ₃ |
| C ₂ H ₅ | CH(CH ₃)(CH ₂) ₃ CH ₃ | SCH ₃ | CH(CH ₃)(CH ₂) ₃ CH ₃ |
| C ₂ H ₅ | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ | SCH ₃ | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| C ₂ H ₅ | CH(CH ₃)CH ₂ CH ₂ C(CH ₃) ₃ | SCH ₃ | CH(CH ₃)CH ₂ CH ₂ C(CH ₃) ₃ |
| C ₂ H ₅ | CH(C ₂ H ₅)CH ₂ CH ₂ CH(CH ₃) ₂ | SCH ₃ | CH(C ₂ H ₅)CH ₂ CH ₂ CH(CH ₃) ₂ |
| C ₂ H ₅ | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ | SCH ₃ | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| C ₂ H ₅ | CH(CH ₂ CH ₂ CH(CH ₃) ₂) ₂ | SCH ₃ | CH(CH ₂ CH ₂ CH(CH ₃) ₂) ₂ |

| <u>R¹</u> | <u>R⁶</u> | <u>R¹</u> | <u>R⁶</u> |
|-------------------------------|--|----------------------|--|
| C ₂ H ₅ | CH ₂ CH ₂ CH ₂ N(CH ₃) ₂ | SCH ₃ | CH ₂ CH ₂ CH ₂ N(CH ₃) ₂ |
| C ₂ H ₅ | CH ₂ CH ₂ N(CH ₃)C(CH ₃) ₃ | SCH ₃ | CH ₂ CH ₂ N(CH ₃)C(CH ₃) ₃ |
| C ₂ H ₅ | CH ₂ CH ₂ N(CH ₃)CH(CH ₃) ₂ | SCH ₃ | CH ₂ CH ₂ N(CH ₃)CH(CH ₃) ₂ |
| C ₂ H ₅ | CH ₂ CH=C(CH ₃) ₂ | SCH ₃ | CH ₂ CH=C(CH ₃) ₂ |
| C ₂ H ₅ | (CH ₂) ₃ C(CH ₃) ₂ OCH ₃ | SCH ₃ | (CH ₂) ₃ C(CH ₃) ₂ OCH ₃ |
| C ₂ H ₅ | (CH ₂) ₃ C(CH ₃) ₂ Cl | SCH ₃ | (CH ₂) ₃ C(CH ₃) ₂ Cl |
| C ₂ H ₅ | CH ₂ CH ₂ CH=C(CH ₃) ₂ | SCH ₃ | CH ₂ CH ₂ CH=C(CH ₃) ₂ |

TABLE 3



| <u>A</u> | <u>R²</u> | <u>R³</u> | <u>R⁶</u> |
|----------|----------------------|-------------------------------|--|
| O | CH ₃ | C ₂ H ₅ | (CH ₂) ₄ CH ₃ |
| O | CH ₃ | C ₂ H ₅ | (CH ₂) ₃ C(CH ₃) ₂ OC ₂ H ₅ |
| O | CH ₃ | C ₂ H ₅ | (CH ₂) ₅ CH ₃ |
| O | CH ₃ | C ₂ H ₅ | (CH ₂) ₆ CH ₃ |
| O | CH ₃ | C ₂ H ₅ | (CH ₂) ₃ C(CH ₃) ₂ Br |
| O | CH ₃ | C ₂ H ₅ | (CH ₂) ₇ CH ₃ |
| O | CH ₃ | C ₂ H ₅ | (CH ₂) ₃ CH(CH ₃) ₂ |
| O | CH ₃ | C ₂ H ₅ | (CH ₂) ₃ C(CH ₃) ₃ |
| O | CH ₃ | C ₂ H ₅ | (CH ₂) ₃ Si(CH ₃) ₃ |
| O | CH ₃ | C ₂ H ₅ | (CH ₂) ₂ CH(CH ₃)CH ₂ C(CH ₃) ₃ |
| O | CH ₃ | C ₂ H ₅ | (CH ₂) ₃ C(=CH ₂)CH(CH ₃) ₂ |
| O | CH ₃ | C ₂ H ₅ | (CH ₂) ₃ CH(CH ₃)C ₂ H ₅ |
| O | CH ₃ | C ₂ H ₅ | (CH ₂) ₂ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| O | CH ₃ | C ₂ H ₅ | (CH ₂) ₂ OC(CH ₃) ₃ |
| O | CH ₃ | C ₂ H ₅ | (CH ₂) ₂ SC(CH ₃) ₃ |
| O | CH ₃ | C ₂ H ₅ | (CH ₂) ₂ SCH(CH ₃) ₂ |
| O | CH ₃ | C ₂ H ₅ | CH ₂ CH=CHC(CH ₃) ₃ |
| O | CH ₃ | C ₂ H ₅ | CH ₂ CH=CHCH(CH ₃) ₂ |
| O | CH ₃ | C ₂ H ₅ | (CH ₂) ₂ S(=O)C(CH ₃) ₃ |
| O | CH ₃ | C ₂ H ₅ | (CH ₂) ₃ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| O | CH ₃ | C ₂ H ₅ | (CH ₂) ₂ OCH(CH ₃) ₂ |

| <u>A</u> | <u>R²</u> | <u>R³</u> | <u>R⁶</u> |
|----------|-------------------------------|-------------------------------|---|
| O | CH ₃ | C ₂ H ₅ | (CH ₂) ₃ OC(CH ₃) ₃ |
| O | CH ₃ | C ₂ H ₅ | (CH ₂) ₃ P(=O)(CH ₃) ₂ |
| O | CH ₃ | C ₂ H ₅ | CH ₂ C(=O)CH ₂ C(CH ₃) ₃ |
| O | CH ₃ | C ₂ H ₅ | CH(CH ₃)(CH ₂) ₃ CH ₃ |
| O | CH ₃ | C ₂ H ₅ | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| O | CH ₃ | C ₂ H ₅ | CH(CH ₃)CH ₂ CH ₂ C(CH ₃) ₃ |
| O | CH ₃ | C ₂ H ₅ | CH(C ₂ H ₅)CH ₂ CH ₂ CH(CH ₃) ₂ |
| O | CH ₃ | C ₂ H ₅ | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| O | CH ₃ | C ₂ H ₅ | CH(CH ₂ CH ₂ CH(CH ₃) ₂) ₂ |
| O | CH ₃ | C ₂ H ₅ | CH ₂ CH ₂ CH ₂ N(CH ₃) ₂ |
| O | CH ₃ | C ₂ H ₅ | CH ₂ CH ₂ N(CH ₃)C(CH ₃) ₃ |
| O | CH ₃ | C ₂ H ₅ | CH ₂ CH ₂ N(CH ₃)CH(CH ₃) ₂ |
| O | CH ₃ | C ₂ H ₅ | CH ₂ CH=C(CH ₃) ₂ |
| O | CH ₃ | C ₂ H ₅ | (CH ₂) ₃ C(CH ₃) ₂ OCH ₃ |
| O | CH ₃ | C ₂ H ₅ | (CH ₂) ₃ C(CH ₃) ₂ Cl |
| O | CH ₃ | C ₂ H ₅ | CH ₂ CH ₂ CH=C(CH ₃) ₂ |
| O | C ₂ H ₅ | C ₂ H ₅ | (CH ₂) ₄ CH ₃ |
| O | C ₂ H ₅ | C ₂ H ₅ | (CH ₂) ₃ C(CH ₃) ₂ OC ₂ H ₅ |
| O | C ₂ H ₅ | C ₂ H ₅ | (CH ₂) ₅ CH ₃ |
| O | C ₂ H ₅ | C ₂ H ₅ | (CH ₂) ₆ CH ₃ |
| O | C ₂ H ₅ | C ₂ H ₅ | (CH ₂) ₃ C(CH ₃) ₂ Br |
| O | C ₂ H ₅ | C ₂ H ₅ | (CH ₂) ₇ CH ₃ |
| O | C ₂ H ₅ | C ₂ H ₅ | (CH ₂) ₃ CH(CH ₃) ₂ |
| O | C ₂ H ₅ | C ₂ H ₅ | (CH ₂) ₃ C(CH ₃) ₃ |
| O | C ₂ H ₅ | C ₂ H ₅ | (CH ₂) ₃ Si(CH ₃) ₃ |
| O | C ₂ H ₅ | C ₂ H ₅ | (CH ₂) ₂ CH(CH ₃)CH ₂ C(CH ₃) ₃ |
| O | C ₂ H ₅ | C ₂ H ₅ | (CH ₂) ₃ C(=CH ₂)CH(CH ₃) ₂ |
| O | C ₂ H ₅ | C ₂ H ₅ | (CH ₂) ₃ CH(CH ₃)C ₂ H ₅ |
| O | C ₂ H ₅ | C ₂ H ₅ | (CH ₂) ₂ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| O | C ₂ H ₅ | C ₂ H ₅ | (CH ₂) ₂ OC(CH ₃) ₃ |
| O | C ₂ H ₅ | C ₂ H ₅ | (CH ₂) ₂ SC(CH ₃) ₃ |
| O | C ₂ H ₅ | C ₂ H ₅ | (CH ₂) ₂ SCH(CH ₃) ₂ |
| O | C ₂ H ₅ | C ₂ H ₅ | CH ₂ CH=CHC(CH ₃) ₃ |
| O | C ₂ H ₅ | C ₂ H ₅ | CH ₂ CH=CHCH(CH ₃) ₂ |
| O | C ₂ H ₅ | C ₂ H ₅ | (CH ₂) ₂ S(=O)C(CH ₃) ₃ |
| O | C ₂ H ₅ | C ₂ H ₅ | (CH ₂) ₃ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| O | C ₂ H ₅ | C ₂ H ₅ | (CH ₂) ₂ OCH(CH ₃) ₂ |

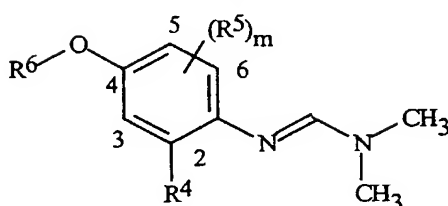
| <u>A</u> | <u>R²</u> | <u>R³</u> | <u>R⁶</u> |
|------------------|-------------------------------|-------------------------------|---|
| O | C ₂ H ₅ | C ₂ H ₅ | (CH ₂) ₃ OC(CH ₃) ₃ |
| O | C ₂ H ₅ | C ₂ H ₅ | (CH ₂) ₃ P(=O)(CH ₃) ₂ |
| O | C ₂ H ₅ | C ₂ H ₅ | CH ₂ C(=O)CH ₂ C(CH ₃) ₃ |
| O | C ₂ H ₅ | C ₂ H ₅ | CH(CH ₃)(CH ₂) ₃ CH ₃ |
| O | C ₂ H ₅ | C ₂ H ₅ | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| O | C ₂ H ₅ | C ₂ H ₅ | CH(CH ₃)CH ₂ CH ₂ C(CH ₃) ₃ |
| O | C ₂ H ₅ | C ₂ H ₅ | CH(C ₂ H ₅)CH ₂ CH ₂ CH(CH ₃) ₂ |
| O | C ₂ H ₅ | C ₂ H ₅ | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| O | C ₂ H ₅ | C ₂ H ₅ | CH(CH ₂ CH ₂ CH(CH ₃) ₂) ₂ |
| O | C ₂ H ₅ | C ₂ H ₅ | CH ₂ CH ₂ CH ₂ N(CH ₃) ₂ |
| O | C ₂ H ₅ | C ₂ H ₅ | CH ₂ CH ₂ N(CH ₃)C(CH ₃) ₃ |
| O | C ₂ H ₅ | C ₂ H ₅ | CH ₂ CH ₂ N(CH ₃)CH(CH ₃) ₂ |
| O | C ₂ H ₅ | C ₂ H ₅ | CH ₂ CH=C(CH ₃) ₂ |
| O | C ₂ H ₅ | C ₂ H ₅ | (CH ₂) ₃ C(CH ₃) ₂ OCH ₃ |
| O | C ₂ H ₅ | C ₂ H ₅ | (CH ₂) ₃ C(CH ₃) ₂ Cl |
| O | C ₂ H ₅ | C ₂ H ₅ | CH ₂ CH ₂ CH=C(CH ₃) ₂ |
| NCH ₃ | CH ₃ | CH ₃ | (CH ₂) ₄ CH ₃ |
| NCH ₃ | CH ₃ | CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ OC ₂ H ₅ |
| NCH ₃ | CH ₃ | CH ₃ | (CH ₂) ₅ CH ₃ |
| NCH ₃ | CH ₃ | CH ₃ | (CH ₂) ₆ CH ₃ |
| NCH ₃ | CH ₃ | CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ Br |
| NCH ₃ | CH ₃ | CH ₃ | (CH ₂) ₇ CH ₃ |
| NCH ₃ | CH ₃ | CH ₃ | (CH ₂) ₃ CH(CH ₃) ₂ |
| NCH ₃ | CH ₃ | CH ₃ | (CH ₂) ₃ C(CH ₃) ₃ |
| NCH ₃ | CH ₃ | CH ₃ | (CH ₂) ₃ Si(CH ₃) ₃ |
| NCH ₃ | CH ₃ | CH ₃ | (CH ₂) ₂ CH(CH ₃)CH ₂ C(CH ₃) ₃ |
| NCH ₃ | CH ₃ | CH ₃ | (CH ₂) ₃ C(=CH ₂)CH(CH ₃) ₂ |
| NCH ₃ | CH ₃ | CH ₃ | (CH ₂) ₃ CH(CH ₃)C ₂ H ₅ |
| NCH ₃ | CH ₃ | CH ₃ | (CH ₂) ₂ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| NCH ₃ | CH ₃ | CH ₃ | (CH ₂) ₂ OC(CH ₃) ₃ |
| NCH ₃ | CH ₃ | CH ₃ | (CH ₂) ₂ SC(CH ₃) ₃ |
| NCH ₃ | CH ₃ | CH ₃ | (CH ₂) ₂ SCH(CH ₃) ₂ |
| NCH ₃ | CH ₃ | CH ₃ | CH ₂ CH=CHC(CH ₃) ₃ |
| NCH ₃ | CH ₃ | CH ₃ | CH ₂ CH=CHCH(CH ₃) ₂ |
| NCH ₃ | CH ₃ | CH ₃ | (CH ₂) ₂ S(=O)C(CH ₃) ₃ |
| NCH ₃ | CH ₃ | CH ₃ | (CH ₂) ₃ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| NCH ₃ | CH ₃ | CH ₃ | (CH ₂) ₂ OCH(CH ₃) ₂ |

| <u>A</u> | <u>R²</u> | <u>R³</u> | <u>R⁶</u> |
|------------------|----------------------|----------------------|---|
| NCH ₃ | CH ₃ | CH ₃ | (CH ₂) ₃ OC(CH ₃) ₃ |
| NCH ₃ | CH ₃ | CH ₃ | (CH ₂) ₃ P(=O)(CH ₃) ₂ |
| NCH ₃ | CH ₃ | CH ₃ | CH ₂ C(=O)CH ₂ C(CH ₃) ₃ |
| NCH ₃ | CH ₃ | CH ₃ | CH(CH ₃)(CH ₂) ₃ CH ₃ |
| NCH ₃ | CH ₃ | CH ₃ | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| NCH ₃ | CH ₃ | CH ₃ | CH(CH ₃)CH ₂ CH ₂ C(CH ₃) ₃ |
| NCH ₃ | CH ₃ | CH ₃ | CH(C ₂ H ₅)CH ₂ CH ₂ CH(CH ₃) ₂ |
| NCH ₃ | CH ₃ | CH ₃ | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| NCH ₃ | CH ₃ | CH ₃ | CH(CH ₂ CH ₂ CH(CH ₃) ₂) ₂ |
| NCH ₃ | CH ₃ | CH ₃ | CH ₂ CH ₂ CH ₂ N(CH ₃) ₂ |
| NCH ₃ | CH ₃ | CH ₃ | CH ₂ CH ₂ N(CH ₃)C(CH ₃) ₃ |
| NCH ₃ | CH ₃ | CH ₃ | CH ₂ CH ₂ N(CH ₃)CH(CH ₃) ₂ |
| NCH ₃ | CH ₃ | CH ₃ | CH ₂ CH=C(CH ₃) ₂ |
| NCH ₃ | CH ₃ | CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ OCH ₃ |
| NCH ₃ | CH ₃ | CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ Cl |
| NCH ₃ | CH ₃ | CH ₃ | CH ₂ CH ₂ CH=C(CH ₃) ₂ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₄ CH ₃ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ OC ₂ H ₅ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₅ CH ₃ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₆ CH ₃ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ Br |
| NH | CH ₃ | CH ₃ | (CH ₂) ₇ CH ₃ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₃ CH(CH ₃) ₂ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₃ C(CH ₃) ₃ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₃ Si(CH ₃) ₃ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₂ CH(CH ₃)CH ₂ C(CH ₃) ₃ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₃ C(=CH ₂)CH(CH ₃) ₂ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₃ CH(CH ₃)C ₂ H ₅ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₂ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₂ OC(CH ₃) ₃ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₂ SC(CH ₃) ₃ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₂ SCH(CH ₃) ₂ |
| NH | CH ₃ | CH ₃ | CH ₂ CH=CHC(CH ₃) ₃ |
| NH | CH ₃ | CH ₃ | CH ₂ CH=CHCH(CH ₃) ₂ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₂ S(=O)C(CH ₃) ₃ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₃ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₂ OCH(CH ₃) ₂ |

| <u>A</u> | <u>R²</u> | <u>R³</u> | <u>R⁶</u> |
|----------|----------------------|----------------------|---|
| NH | CH ₃ | CH ₃ | (CH ₂) ₃ OC(CH ₃) ₃ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₃ P(=O)(CH ₃) ₂ |
| NH | CH ₃ | CH ₃ | CH ₂ C(=O)CH ₂ C(CH ₃) ₃ |
| NH | CH ₃ | CH ₃ | CH(CH ₃)(CH ₂) ₃ CH ₃ |
| NH | CH ₃ | CH ₃ | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| NH | CH ₃ | CH ₃ | CH(CH ₃)CH ₂ CH ₂ C(CH ₃) ₃ |
| NH | CH ₃ | CH ₃ | CH(C ₂ H ₅)CH ₂ CH ₂ CH(CH ₃) ₂ |
| NH | CH ₃ | CH ₃ | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| NH | CH ₃ | CH ₃ | CH(CH ₂ CH ₂ CH(CH ₃) ₂) ₂ |
| NH | CH ₃ | CH ₃ | CH ₂ CH ₂ CH ₂ N(CH ₃) ₂ |
| NH | CH ₃ | CH ₃ | CH ₂ CH ₂ N(CH ₃)C(CH ₃) ₃ |
| NH | CH ₃ | CH ₃ | CH ₂ CH ₂ N(CH ₃)CH(CH ₃) ₂ |
| NH | CH ₃ | CH ₃ | CH ₂ CH=C(CH ₃) ₂ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ OCH ₃ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ Cl |
| NH | CH ₃ | CH ₃ | CH ₂ CH ₂ CH=C(CH ₃) ₂ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₈ CH ₃ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₉ CH ₃ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₁₁ CH ₃ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₄ CH(CH ₃) ₂ |
| NH | CH ₃ | CH ₃ | C(=O)OCH(C ₂ H ₅)C(CH ₃) ₃ |
| NH | CH ₃ | CH ₃ | C(=O)OC(CH ₃) ₂ C(CH ₃) ₃ |
| NH | CH ₃ | CH ₃ | CH ₂ CH ₂ CH ₂ CH=C(CH ₃) ₂ |
| NH | CH ₃ | CH ₃ | C(=O)CH ₂ SC(CH ₃) ₃ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₄ Cl |
| NH | CH ₃ | CH ₃ | (CH ₂) ₅ Cl |
| NH | CH ₃ | CH ₃ | (CH ₂) ₂ CH(CH ₃)(CH ₂) ₃ CH(CH ₃) ₂ |
| NH | CH ₃ | CH ₃ | (S)-(CH ₂) ₂ CH(CH ₃)CH ₂ CH ₂ CH=C(CH ₃) ₂ |
| NH | CH ₃ | CH ₃ | (R)-(CH ₂) ₂ CH(CH ₃)CH ₂ CH ₂ CH=C(CH ₃) ₂ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₂ CH(CH ₃) ₂ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₂ C(CH ₃) ₃ |
| NH | CH ₃ | CH ₃ | CH ₂ C(=O)C(CH ₃) ₃ |
| NH | CH ₃ | CH ₃ | CH ₂ CH=C(CH ₃)(CH ₂) ₂ CH=C(CH ₃) ₂ |
| NH | CH ₃ | CH ₃ | CH ₂ (CH=C(CH ₃)(CH ₂) ₂) ₂ CH=C(CH ₃) ₂ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₃ CH=CH ₂ |
| NH | CH ₃ | CH ₃ | (CH ₂) ₄ CH=CH ₂ |
| NH | CH ₃ | CH ₃ | CH(C ₂ H ₅) ₂ |

| <u>A</u> | <u>R²</u> | <u>R³</u> | <u>R⁶</u> |
|----------|----------------------|----------------------|---|
| NH | CH ₃ | CH ₃ | CH(CH ₂ CH ₂ CH ₃) ₂ |
| NH | CH ₃ | CH ₃ | CH(CH ₂ CH ₂ CH ₂ CH ₃) ₂ |
| NH | CH ₃ | CH ₃ | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH ₂ CH ₃ |
| NH | CH ₃ | CH ₃ | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃)(C ₂ H ₅) |
| NH | CH ₃ | CH ₃ | CH(CH ₂ CH ₂ CH ₂ CH ₂ CH ₃) ₂ |
| NH | CH ₃ | CH ₃ | CH(CH ₂ CH ₂ CH ₂ CH ₃)(CH ₂) ₅ CH ₃ |
| NH | CH ₃ | CH ₃ | CH(C ₂ H ₅)CH ₂ CH ₂ C(=CH ₂)CH ₃ |

TABLE 4



| <u>R⁴</u> | <u>m</u> | <u>R⁵</u> | <u>R⁶</u> |
|----------------------|----------|----------------------|--|
| CH ₃ | 1 | 5-Cl | (CH ₂) ₄ CH ₃ |
| CH ₃ | 1 | 5-Cl | (CH ₂) ₃ C(CH ₃) ₂ OC ₂ H ₅ |
| CH ₃ | 1 | 5-Cl | (CH ₂) ₅ CH ₃ |
| CH ₃ | 1 | 5-Cl | (CH ₂) ₆ CH ₃ |
| CH ₃ | 1 | 5-Cl | (CH ₂) ₃ C(CH ₃) ₂ Br |
| CH ₃ | 1 | 5-Cl | (CH ₂) ₇ CH ₃ |
| CH ₃ | 1 | 5-Cl | (CH ₂) ₃ CH(CH ₃) ₂ |
| CH ₃ | 1 | 5-Cl | (CH ₂) ₃ C(CH ₃) ₃ |
| CH ₃ | 1 | 5-Cl | (CH ₂) ₃ Si(CH ₃) ₃ |
| CH ₃ | 1 | 5-Cl | (CH ₂) ₂ CH(CH ₃)CH ₂ C(CH ₃) ₃ |
| CH ₃ | 1 | 5-Cl | (CH ₂) ₃ C(=CH ₂)CH(CH ₃) ₂ |
| CH ₃ | 1 | 5-Cl | (CH ₂) ₃ CH(CH ₃)C ₂ H ₅ |
| CH ₃ | 1 | 5-Cl | (CH ₂) ₂ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| CH ₃ | 1 | 5-Cl | (CH ₂) ₂ OC(CH ₃) ₃ |
| CH ₃ | 1 | 5-Cl | (CH ₂) ₂ SC(CH ₃) ₃ |
| CH ₃ | 1 | 5-Cl | (CH ₂) ₂ SCH(CH ₃) ₂ |
| CH ₃ | 1 | 5-Cl | CH ₂ CH=CHC(CH ₃) ₃ |
| CH ₃ | 1 | 5-Cl | CH ₂ CH=CHCH(CH ₃) ₂ |
| CH ₃ | 1 | 5-Cl | (CH ₂) ₂ S(=O)C(CH ₃) ₃ |
| CH ₃ | 1 | 5-Cl | (CH ₂) ₃ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| CH ₃ | 1 | 5-Cl | (CH ₂) ₂ OCH(CH ₃) ₂ |
| CH ₃ | 1 | 5-Cl | (CH ₂) ₃ OC(CH ₃) ₃ |

| R^4 | m | R^5 | R^6 |
|-----------------|-----|-------------------|---|
| CH ₃ | 1 | 5-Cl | (CH ₂) ₃ P(=O)(CH ₃) ₂ |
| CH ₃ | 1 | 5-Cl | CH ₂ C(=O)CH ₂ C(CH ₃) ₃ |
| CH ₃ | 1 | 5-Cl | CH(CH ₃)(CH ₂) ₃ CH ₃ |
| CH ₃ | 1 | 5-Cl | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | 1 | 5-Cl | CH(CH ₃)CH ₂ CH ₂ C(CH ₃) ₃ |
| CH ₃ | 1 | 5-Cl | CH(C ₂ H ₅)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | 1 | 5-Cl | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | 1 | 5-Cl | CH(CH ₂ CH ₂ CH(CH ₃) ₂) ₂ |
| CH ₃ | 1 | 5-Cl | CH ₂ CH ₂ CH ₂ N(CH ₃) ₂ |
| CH ₃ | 1 | 5-Cl | CH ₂ CH ₂ N(CH ₃)C(CH ₃) ₃ |
| CH ₃ | 1 | 5-Cl | CH ₂ CH ₂ N(CH ₃)CH(CH ₃) ₂ |
| CH ₃ | 1 | 5-Cl | CH ₂ CH=C(CH ₃) ₂ |
| CH ₃ | 1 | 5-Cl | (CH ₂) ₃ C(CH ₃) ₂ OCH ₃ |
| CH ₃ | 1 | 5-Cl | (CH ₂) ₃ C(CH ₃) ₂ Cl |
| CH ₃ | 1 | 5-Cl | CH ₂ CH ₂ CH=C(CH ₃) ₂ |
| Cl | 1 | 5-CH ₃ | (CH ₂) ₄ CH ₃ |
| Cl | 1 | 5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ OC ₂ H ₅ |
| Cl | 1 | 5-CH ₃ | (CH ₂) ₅ CH ₃ |
| Cl | 1 | 5-CH ₃ | (CH ₂) ₆ CH ₃ |
| Cl | 1 | 5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ Br |
| Cl | 1 | 5-CH ₃ | (CH ₂) ₇ CH ₃ |
| Cl | 1 | 5-CH ₃ | (CH ₂) ₃ CH(CH ₃) ₂ |
| Cl | 1 | 5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₃ |
| Cl | 1 | 5-CH ₃ | (CH ₂) ₃ Si(CH ₃) ₃ |
| Cl | 1 | 5-CH ₃ | (CH ₂) ₂ CH(CH ₃)CH ₂ C(CH ₃) ₃ |
| Cl | 1 | 5-CH ₃ | (CH ₂) ₃ C(=CH ₂)CH(CH ₃) ₂ |
| Cl | 1 | 5-CH ₃ | (CH ₂) ₃ CH(CH ₃)C ₂ H ₅ |
| Cl | 1 | 5-CH ₃ | (CH ₂) ₂ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| Cl | 1 | 5-CH ₃ | (CH ₂) ₂ OC(CH ₃) ₃ |
| Cl | 1 | 5-CH ₃ | (CH ₂) ₂ SC(CH ₃) ₃ |
| Cl | 1 | 5-CH ₃ | (CH ₂) ₂ SCH(CH ₃) ₂ |
| Cl | 1 | 5-CH ₃ | CH ₂ CH=CHC(CH ₃) ₃ |
| Cl | 1 | 5-CH ₃ | CH ₂ CH=CHCH(CH ₃) ₂ |
| Cl | 1 | 5-CH ₃ | (CH ₂) ₂ S(=O)C(CH ₃) ₃ |
| Cl | 1 | 5-CH ₃ | (CH ₂) ₃ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| Cl | 1 | 5-CH ₃ | (CH ₂) ₂ OCH(CH ₃) ₂ |
| Cl | 1 | 5-CH ₃ | (CH ₂) ₃ OC(CH ₃) ₃ |

| <u>R⁴</u> | <u>m</u> | <u>R⁵</u> | <u>R⁶</u> |
|----------------------|----------|----------------------|---|
| Cl | 1 | 5-CH ₃ | (CH ₂) ₃ P(=O)(CH ₃) ₂ |
| Cl | 1 | 5-CH ₃ | CH ₂ C(=O)CH ₂ C(CH ₃) ₃ |
| Cl | 1 | 5-CH ₃ | CH(CH ₃)(CH ₂) ₃ CH ₃ |
| Cl | 1 | 5-CH ₃ | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| Cl | 1 | 5-CH ₃ | CH(CH ₃)CH ₂ CH ₂ C(CH ₃) ₃ |
| Cl | 1 | 5-CH ₃ | CH(C ₂ H ₅)CH ₂ CH ₂ CH(CH ₃) ₂ |
| Cl | 1 | 5-CH ₃ | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| Cl | 1 | 5-CH ₃ | CH(CH ₂ CH ₂ CH(CH ₃) ₂) ₂ |
| Cl | 1 | 5-CH ₃ | CH ₂ CH ₂ CH ₂ N(CH ₃) ₂ |
| Cl | 1 | 5-CH ₃ | CH ₂ CH ₂ N(CH ₃)C(CH ₃) ₃ |
| Cl | 1 | 5-CH ₃ | CH ₂ CH ₂ N(CH ₃)CH(CH ₃) ₂ |
| Cl | 1 | 5-CH ₃ | CH ₂ CH=C(CH ₃) ₂ |
| Cl | 1 | 5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ OCH ₃ |
| Cl | 1 | 5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ Cl |
| Cl | 1 | 5-CH ₃ | CH ₂ CH ₂ CH=C(CH ₃) ₂ |
| Cl | 1 | 5-Cl | (CH ₂) ₄ CH ₃ |
| Cl | 1 | 5-Cl | (CH ₂) ₃ C(CH ₃) ₂ OC ₂ H ₅ |
| Cl | 1 | 5-Cl | (CH ₂) ₅ CH ₃ |
| Cl | 1 | 5-Cl | (CH ₂) ₆ CH ₃ |
| Cl | 1 | 5-Cl | (CH ₂) ₃ C(CH ₃) ₂ Br |
| Cl | 1 | 5-Cl | (CH ₂) ₇ CH ₃ |
| Cl | 1 | 5-Cl | (CH ₂) ₃ CH(CH ₃) ₂ |
| Cl | 1 | 5-Cl | (CH ₂) ₃ C(CH ₃) ₃ |
| Cl | 1 | 5-Cl | (CH ₂) ₃ Si(CH ₃) ₃ |
| Cl | 1 | 5-Cl | (CH ₂) ₂ CH(CH ₃)CH ₂ C(CH ₃) ₃ |
| Cl | 1 | 5-Cl | (CH ₂) ₃ C(=CH ₂)CH(CH ₃) ₂ |
| Cl | 1 | 5-Cl | (CH ₂) ₃ CH(CH ₃)C ₂ H ₅ |
| Cl | 1 | 5-Cl | (CH ₂) ₂ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| Cl | 1 | 5-Cl | (CH ₂) ₂ OC(CH ₃) ₃ |
| Cl | 1 | 5-Cl | (CH ₂) ₂ SC(CH ₃) ₃ |
| Cl | 1 | 5-Cl | (CH ₂) ₂ SCH(CH ₃) ₂ |
| Cl | 1 | 5-Cl | CH ₂ CH=CHC(CH ₃) ₃ |
| Cl | 1 | 5-Cl | CH ₂ CH=CHCH(CH ₃) ₂ |
| Cl | 1 | 5-Cl | (CH ₂) ₂ S(=O)C(CH ₃) ₃ |
| Cl | 1 | 5-Cl | (CH ₂) ₃ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| Cl | 1 | 5-Cl | (CH ₂) ₂ OCH(CH ₃) ₂ |
| Cl | 1 | 5-Cl | (CH ₂) ₃ OC(CH ₃) ₃ |

| R^4 | m | R^5 | R^6 |
|-----------------|-----|-------|--------------------------------------|
| Cl | 1 | 5-Cl | $(CH_2)_3P(=O)(CH_3)_2$ |
| Cl | 1 | 5-Cl | $CH_2C(=O)CH_2C(CH_3)_3$ |
| Cl | 1 | 5-Cl | $CH(CH_3)(CH_2)_3CH_3$ |
| Cl | 1 | 5-Cl | $CH(CH_3)CH_2CH_2CH(CH_3)_2$ |
| Cl | 1 | 5-Cl | $CH(CH_3)CH_2CH_2C(CH_3)_3$ |
| Cl | 1 | 5-Cl | $CH(C_2H_5)CH_2CH_2CH(CH_3)_2$ |
| Cl | 1 | 5-Cl | $CH(CH_2CH_2CH_3)CH_2CH_2CH(CH_3)_2$ |
| Cl | 1 | 5-Cl | $CH(CH_2CH_2CH(CH_3)_2)_2$ |
| Cl | 1 | 5-Cl | $CH_2CH_2CH_2N(CH_3)_2$ |
| Cl | 1 | 5-Cl | $CH_2CH_2N(CH_3)C(CH_3)_3$ |
| Cl | 1 | 5-Cl | $CH_2CH_2N(CH_3)CH(CH_3)_2$ |
| Cl | 1 | 5-Cl | $CH_2CH=C(CH_3)_2$ |
| Cl | 1 | 5-Cl | $(CH_2)_3C(CH_3)_2OCH_3$ |
| Cl | 1 | 5-Cl | $(CH_2)_3C(CH_3)_2Cl$ |
| Cl | 1 | 5-Cl | $CH_2CH_2CH=C(CH_3)_2$ |
| CH ₃ | 0 | - | $(CH_2)_4CH_3$ |
| CH ₃ | 0 | - | $(CH_2)_3C(CH_3)_2OC_2H_5$ |
| CH ₃ | 0 | - | $(CH_2)_5CH_3$ |
| CH ₃ | 0 | - | $(CH_2)_6CH_3$ |
| CH ₃ | 0 | - | $(CH_2)_3C(CH_3)_2Br$ |
| CH ₃ | 0 | - | $(CH_2)_7CH_3$ |
| CH ₃ | 0 | - | $(CH_2)_3CH(CH_3)_2$ |
| CH ₃ | 0 | - | $(CH_2)_3C(CH_3)_3$ |
| CH ₃ | 0 | - | $(CH_2)_3Si(CH_3)_3$ |
| CH ₃ | 0 | - | $(CH_2)_2CH(CH_3)CH_2C(CH_3)_3$ |
| CH ₃ | 0 | - | $(CH_2)_3C(=CH_2)CH(CH_3)_2$ |
| CH ₃ | 0 | - | $(CH_2)_3CH(CH_3)C_2H_5$ |
| CH ₃ | 0 | - | $(CH_2)_2OSi(CH_3)_2C(CH_3)_3$ |
| CH ₃ | 0 | - | $(CH_2)_2OC(CH_3)_3$ |
| CH ₃ | 0 | - | $(CH_2)_2SC(CH_3)_3$ |
| CH ₃ | 0 | - | $(CH_2)_2SCH(CH_3)_2$ |
| CH ₃ | 0 | - | $CH_2CH=CHC(CH_3)_3$ |
| CH ₃ | 0 | - | $CH_2CH=CHCH(CH_3)_2$ |
| CH ₃ | 0 | - | $(CH_2)_2S(=O)C(CH_3)_3$ |
| CH ₃ | 0 | - | $(CH_2)_3OSi(CH_3)_2C(CH_3)_3$ |
| CH ₃ | 0 | - | $(CH_2)_2OCH(CH_3)_2$ |
| CH ₃ | 0 | - | $(CH_2)_3OC(CH_3)_3$ |

| <u>R⁴</u> | <u>m</u> | <u>R⁵</u> | <u>R⁶</u> |
|----------------------|----------|----------------------|---|
| CH ₃ | 0 | - | (CH ₂) ₃ P(=O)(CH ₃) ₂ |
| CH ₃ | 0 | - | CH ₂ C(=O)CH ₂ C(CH ₃) ₃ |
| CH ₃ | 0 | - | CH(CH ₃)(CH ₂) ₃ CH ₃ |
| CH ₃ | 0 | - | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | 0 | - | CH(CH ₃)CH ₂ CH ₂ C(CH ₃) ₃ |
| CH ₃ | 0 | - | CH(C ₂ H ₅)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | 0 | - | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | 0 | - | CH(CH ₂ CH ₂ CH(CH ₃) ₂) ₂ |
| CH ₃ | 0 | - | CH ₂ CH ₂ CH ₂ N(CH ₃) ₂ |
| CH ₃ | 0 | - | CH ₂ CH ₂ N(CH ₃)C(CH ₃) ₃ |
| CH ₃ | 0 | - | CH ₂ CH ₂ N(CH ₃)CH(CH ₃) ₂ |
| CH ₃ | 0 | - | CH ₂ CH=C(CH ₃) ₂ |
| CH ₃ | 0 | - | (CH ₂) ₃ C(CH ₃) ₂ OCH ₃ |
| CH ₃ | 0 | - | (CH ₂) ₃ C(CH ₃) ₂ Cl |
| CH ₃ | 0 | - | CH ₂ CH ₂ CH=C(CH ₃) ₂ |
| CF ₃ | 1 | 5-CH ₃ | (CH ₂) ₄ CH ₃ |
| CF ₃ | 1 | 5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ OC ₂ H ₅ |
| CF ₃ | 1 | 5-CH ₃ | (CH ₂) ₅ CH ₃ |
| CF ₃ | 1 | 5-CH ₃ | (CH ₂) ₆ CH ₃ |
| CF ₃ | 1 | 5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ Br |
| CF ₃ | 1 | 5-CH ₃ | (CH ₂) ₇ CH ₃ |
| CF ₃ | 1 | 5-CH ₃ | (CH ₂) ₃ CH(CH ₃) ₂ |
| CF ₃ | 1 | 5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₃ |
| CF ₃ | 1 | 5-CH ₃ | (CH ₂) ₃ Si(CH ₃) ₃ |
| CF ₃ | 1 | 5-CH ₃ | (CH ₂) ₂ CH(CH ₃)CH ₂ C(CH ₃) ₃ |
| CF ₃ | 1 | 5-CH ₃ | (CH ₂) ₃ C(=CH ₂)CH(CH ₃) ₂ |
| CF ₃ | 1 | 5-CH ₃ | (CH ₂) ₃ CH(CH ₃)C ₂ H ₅ |
| CF ₃ | 1 | 5-CH ₃ | (CH ₂) ₂ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| CF ₃ | 1 | 5-CH ₃ | (CH ₂) ₂ OC(CH ₃) ₃ |
| CF ₃ | 1 | 5-CH ₃ | (CH ₂) ₂ SC(CH ₃) ₃ |
| CF ₃ | 1 | 5-CH ₃ | (CH ₂) ₂ SCH(CH ₃) ₂ |
| CF ₃ | 1 | 5-CH ₃ | CH ₂ CH=CHC(CH ₃) ₃ |
| CF ₃ | 1 | 5-CH ₃ | CH ₂ CH=CHCH(CH ₃) ₂ |
| CF ₃ | 1 | 5-CH ₃ | (CH ₂) ₂ S(=O)C(CH ₃) ₃ |
| CF ₃ | 1 | 5-CH ₃ | (CH ₂) ₃ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| CF ₃ | 1 | 5-CH ₃ | (CH ₂) ₂ OCH(CH ₃) ₂ |
| CF ₃ | 1 | 5-CH ₃ | (CH ₂) ₃ OC(CH ₃) ₃ |

| R^4 | m | R^5 | R^6 |
|-----------------|-----|-------------------------|---|
| CF ₃ | 1 | 5-CH ₃ | (CH ₂) ₃ P(=O)(CH ₃) ₂ |
| CF ₃ | 1 | 5-CH ₃ | CH ₂ C(=O)CH ₂ C(CH ₃) ₃ |
| CF ₃ | 1 | 5-CH ₃ | CH(CH ₃)(CH ₂) ₃ CH ₃ |
| CF ₃ | 1 | 5-CH ₃ | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CF ₃ | 1 | 5-CH ₃ | CH(CH ₃)CH ₂ CH ₂ C(CH ₃) ₃ |
| CF ₃ | 1 | 5-CH ₃ | CH(C ₂ H ₅)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CF ₃ | 1 | 5-CH ₃ | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CF ₃ | 1 | 5-CH ₃ | CH(CH ₂ CH ₂ CH(CH ₃) ₂) ₂ |
| CF ₃ | 1 | 5-CH ₃ | CH ₂ CH ₂ CH ₂ N(CH ₃) ₂ |
| CF ₃ | 1 | 5-CH ₃ | CH ₂ CH ₂ N(CH ₃)C(CH ₃) ₃ |
| CF ₃ | 1 | 5-CH ₃ | CH ₂ CH ₂ N(CH ₃)CH(CH ₃) ₂ |
| CF ₃ | 1 | 5-CH ₃ | CH ₂ CH=C(CH ₃) ₂ |
| CF ₃ | 1 | 5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ OCH ₃ |
| CF ₃ | 1 | 5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ Cl |
| CF ₃ | 1 | 5-CH ₃ | CH ₂ CH ₂ CH=C(CH ₃) ₂ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | (CH ₂) ₄ CH ₃ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | (CH ₂) ₃ C(CH ₃) ₂ OC ₂ H ₅ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | (CH ₂) ₅ CH ₃ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | (CH ₂) ₆ CH ₃ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | (CH ₂) ₃ C(CH ₃) ₂ Br |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | (CH ₂) ₇ CH ₃ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | (CH ₂) ₃ CH(CH ₃) ₂ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | (CH ₂) ₃ C(CH ₃) ₃ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | (CH ₂) ₃ Si(CH ₃) ₃ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | (CH ₂) ₂ CH(CH ₃)CH ₂ C(CH ₃) ₃ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | (CH ₂) ₃ C(=CH ₂)CH(CH ₃) ₂ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | (CH ₂) ₃ CH(CH ₃)C ₂ H ₅ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | (CH ₂) ₂ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | (CH ₂) ₂ OC(CH ₃) ₃ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | (CH ₂) ₂ SC(CH ₃) ₃ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | (CH ₂) ₂ SCH(CH ₃) ₂ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | CH ₂ CH=CHC(CH ₃) ₃ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | CH ₂ CH=CHCH(CH ₃) ₂ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | (CH ₂) ₂ S(=O)C(CH ₃) ₃ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | (CH ₂) ₃ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | (CH ₂) ₂ OCH(CH ₃) ₂ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | (CH ₂) ₃ OC(CH ₃) ₃ |

| <u>R⁴</u> | <u>m</u> | <u>R⁵</u> | <u>R⁶</u> |
|----------------------|----------|-------------------------|---|
| CH ₃ | 2 | 5-CH ₃ -6-Cl | (CH ₂) ₃ P(=O)(CH ₃) ₂ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | CH ₂ C(=O)CH ₂ C(CH ₃) ₃ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | CH(CH ₃)(CH ₂) ₃ CH ₃ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | CH(CH ₃)CH ₂ CH ₂ C(CH ₃) ₃ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | CH(C ₂ H ₅)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | CH(CH ₂ CH ₂ CH(CH ₃) ₂) ₂ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | CH ₂ CH ₂ CH ₂ N(CH ₃) ₂ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | CH ₂ CH ₂ N(CH ₃)C(CH ₃) ₃ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | CH ₂ CH ₂ N(CH ₃)CH(CH ₃) ₂ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | CH ₂ CH=C(CH ₃) ₂ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | (CH ₂) ₃ C(CH ₃) ₂ OCH ₃ |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | (CH ₂) ₃ C(CH ₃) ₂ Cl |
| CH ₃ | 2 | 5-CH ₃ -6-Cl | CH ₂ CH ₂ CH=C(CH ₃) ₂ |
| CH ₃ | 2 | 3,5-di-CH ₃ | (CH ₂) ₄ CH ₃ |
| CH ₃ | 2 | 3,5-di-CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ OC ₂ H ₅ |
| CH ₃ | 2 | 3,5-di-CH ₃ | (CH ₂) ₅ CH ₃ |
| CH ₃ | 2 | 3,5-di-CH ₃ | (CH ₂) ₆ CH ₃ |
| CH ₃ | 2 | 3,5-di-CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ Br |
| CH ₃ | 2 | 3,5-di-CH ₃ | (CH ₂) ₇ CH ₃ |
| CH ₃ | 2 | 3,5-di-CH ₃ | (CH ₂) ₃ CH(CH ₃) ₂ |
| CH ₃ | 2 | 3,5-di-CH ₃ | (CH ₂) ₃ C(CH ₃) ₃ |
| CH ₃ | 2 | 3,5-di-CH ₃ | (CH ₂) ₃ Si(CH ₃) ₃ |
| CH ₃ | 2 | 3,5-di-CH ₃ | (CH ₂) ₂ CH(CH ₃)CH ₂ C(CH ₃) ₃ |
| CH ₃ | 2 | 3,5-di-CH ₃ | (CH ₂) ₃ C(=CH ₂)CH(CH ₃) ₂ |
| CH ₃ | 2 | 3,5-di-CH ₃ | (CH ₂) ₃ CH(CH ₃)C ₂ H ₅ |
| CH ₃ | 2 | 3,5-di-CH ₃ | (CH ₂) ₂ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| CH ₃ | 2 | 3,5-di-CH ₃ | (CH ₂) ₂ OC(CH ₃) ₃ |
| CH ₃ | 2 | 3,5-di-CH ₃ | (CH ₂) ₂ SC(CH ₃) ₃ |
| CH ₃ | 2 | 3,5-di-CH ₃ | (CH ₂) ₂ SCH(CH ₃) ₂ |
| CH ₃ | 2 | 3,5-di-CH ₃ | CH ₂ CH=CHC(CH ₃) ₃ |
| CH ₃ | 2 | 3,5-di-CH ₃ | CH ₂ CH=CHCH(CH ₃) ₂ |
| CH ₃ | 2 | 3,5-di-CH ₃ | (CH ₂) ₂ S(=O)C(CH ₃) ₃ |
| CH ₃ | 2 | 3,5-di-CH ₃ | (CH ₂) ₃ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| CH ₃ | 2 | 3,5-di-CH ₃ | (CH ₂) ₂ OCH(CH ₃) ₂ |
| CH ₃ | 2 | 3,5-di-CH ₃ | (CH ₂) ₃ OC(CH ₃) ₃ |

| R^4 | m | R^5 | R^6 |
|-----------------|-----|------------------------|---|
| CH ₃ | 2 | 3,5-di-CH ₃ | (CH ₂) ₃ P(=O)(CH ₃) ₂ |
| CH ₃ | 2 | 3,5-di-CH ₃ | CH ₂ C(=O)CH ₂ C(CH ₃) ₃ |
| CH ₃ | 2 | 3,5-di-CH ₃ | CH(CH ₃)(CH ₂) ₃ CH ₃ |
| CH ₃ | 2 | 3,5-di-CH ₃ | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | 2 | 3,5-di-CH ₃ | CH(CH ₃)CH ₂ CH ₂ C(CH ₃) ₃ |
| CH ₃ | 2 | 3,5-di-CH ₃ | CH(C ₂ H ₅)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | 2 | 3,5-di-CH ₃ | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | 2 | 3,5-di-CH ₃ | CH(CH ₂ CH ₂ CH(CH ₃) ₂) ₂ |
| CH ₃ | 2 | 3,5-di-CH ₃ | CH ₂ CH ₂ CH ₂ N(CH ₃) ₂ |
| CH ₃ | 2 | 3,5-di-CH ₃ | CH ₂ CH ₂ N(CH ₃)C(CH ₃) ₃ |
| CH ₃ | 2 | 3,5-di-CH ₃ | CH ₂ CH ₂ N(CH ₃)CH(CH ₃) ₂ |
| CH ₃ | 2 | 3,5-di-CH ₃ | CH ₂ CH=C(CH ₃) ₂ |
| CH ₃ | 2 | 3,5-di-CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ OCH ₃ |
| CH ₃ | 2 | 3,5-di-CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ Cl |
| CH ₃ | 2 | 3,5-di-CH ₃ | CH ₂ CH ₂ CH=C(CH ₃) ₂ |
| CH ₃ | 1 | 3-CH ₃ | (CH ₂) ₄ CH ₃ |
| CH ₃ | 1 | 3-CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ OC ₂ H ₅ |
| CH ₃ | 1 | 3-CH ₃ | (CH ₂) ₅ CH ₃ |
| CH ₃ | 1 | 3-CH ₃ | (CH ₂) ₆ CH ₃ |
| CH ₃ | 1 | 3-CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ Br |
| CH ₃ | 1 | 3-CH ₃ | (CH ₂) ₇ CH ₃ |
| CH ₃ | 1 | 3-CH ₃ | (CH ₂) ₃ CH(CH ₃) ₂ |
| CH ₃ | 1 | 3-CH ₃ | (CH ₂) ₃ C(CH ₃) ₃ |
| CH ₃ | 1 | 3-CH ₃ | (CH ₂) ₃ Si(CH ₃) ₃ |
| CH ₃ | 1 | 3-CH ₃ | (CH ₂) ₂ CH(CH ₃)CH ₂ C(CH ₃) ₃ |
| CH ₃ | 1 | 3-CH ₃ | (CH ₂) ₃ C(=CH ₂)CH(CH ₃) ₂ |
| CH ₃ | 1 | 3-CH ₃ | (CH ₂) ₃ CH(CH ₃)C ₂ H ₅ |
| CH ₃ | 1 | 3-CH ₃ | (CH ₂) ₂ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| CH ₃ | 1 | 3-CH ₃ | (CH ₂) ₂ OC(CH ₃) ₃ |
| CH ₃ | 1 | 3-CH ₃ | (CH ₂) ₂ SC(CH ₃) ₃ |
| CH ₃ | 1 | 3-CH ₃ | (CH ₂) ₂ SCH(CH ₃) ₂ |
| CH ₃ | 1 | 3-CH ₃ | CH ₂ CH=CHC(CH ₃) ₃ |
| CH ₃ | 1 | 3-CH ₃ | CH ₂ CH=CHCH(CH ₃) ₂ |
| CH ₃ | 1 | 3-CH ₃ | (CH ₂) ₂ S(=O)C(CH ₃) ₃ |
| CH ₃ | 1 | 3-CH ₃ | (CH ₂) ₃ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| CH ₃ | 1 | 3-CH ₃ | (CH ₂) ₂ OCH(CH ₃) ₂ |
| CH ₃ | 1 | 3-CH ₃ | (CH ₂) ₃ OC(CH ₃) ₃ |

| <u>R⁴</u> | <u>m</u> | <u>R⁵</u> | <u>R⁶</u> |
|----------------------|----------|-----------------------------|---|
| CH ₃ | 1 | 3-CH ₃ | (CH ₂) ₃ P(=O)(CH ₃) ₂ |
| CH ₃ | 1 | 3-CH ₃ | CH ₂ C(=O)CH ₂ C(CH ₃) ₃ |
| CH ₃ | 1 | 3-CH ₃ | CH(CH ₃)(CH ₂) ₃ CH ₃ |
| CH ₃ | 1 | 3-CH ₃ | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | 1 | 3-CH ₃ | CH(CH ₃)CH ₂ CH ₂ C(CH ₃) ₃ |
| CH ₃ | 1 | 3-CH ₃ | CH(C ₂ H ₅)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | 1 | 3-CH ₃ | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | 1 | 3-CH ₃ | CH(CH ₂ CH ₂ CH(CH ₃) ₂) ₂ |
| CH ₃ | 1 | 3-CH ₃ | CH ₂ CH ₂ CH ₂ N(CH ₃) ₂ |
| CH ₃ | 1 | 3-CH ₃ | CH ₂ CH ₂ N(CH ₃)C(CH ₃) ₃ |
| CH ₃ | 1 | 3-CH ₃ | CH ₂ CH ₂ N(CH ₃)CH(CH ₃) ₂ |
| CH ₃ | 1 | 3-CH ₃ | CH ₂ CH=C(CH ₃) ₂ |
| CH ₃ | 1 | 3-CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ OCH ₃ |
| CH ₃ | 1 | 3-CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ Cl |
| CH ₃ | 1 | 3-CH ₃ | CH ₂ CH ₂ CH=C(CH ₃) ₂ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | (CH ₂) ₄ CH ₃ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ OC ₂ H ₅ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | (CH ₂) ₅ CH ₃ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | (CH ₂) ₆ CH ₃ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ Br |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | (CH ₂) ₇ CH ₃ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | (CH ₂) ₃ CH(CH ₃) ₂ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₃ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | (CH ₂) ₃ Si(CH ₃) ₃ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | (CH ₂) ₂ CH(CH ₃)CH ₂ C(CH ₃) ₃ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | (CH ₂) ₃ C(=CH ₂)CH(CH ₃) ₂ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | (CH ₂) ₃ CH(CH ₃)C ₂ H ₅ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | (CH ₂) ₂ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | (CH ₂) ₂ OC(CH ₃) ₃ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | (CH ₂) ₂ SC(CH ₃) ₃ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | (CH ₂) ₂ SCH(CH ₃) ₂ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | CH ₂ CH=CHC(CH ₃) ₃ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | CH ₂ CH=CHCH(CH ₃) ₂ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | (CH ₂) ₂ S(=O)C(CH ₃) ₃ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | (CH ₂) ₃ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | (CH ₂) ₂ OCH(CH ₃) ₂ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | (CH ₂) ₃ OC(CH ₃) ₃ |

| R^4 | m | R^5 | R^6 |
|-----------------|---|-----------------------------|---|
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | (CH ₂) ₃ P(=O)(CH ₃) ₂ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | CH ₂ C(=O)CH ₂ C(CH ₃) ₃ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | CH(CH ₃)(CH ₂) ₃ CH ₃ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | CH(CH ₃)CH ₂ CH ₂ C(CH ₃) ₃ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | CH(C ₂ H ₅)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | CH(CH ₂ CH ₂ CH(CH ₃) ₂) ₂ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | CH ₂ CH ₂ CH ₂ N(CH ₃) ₂ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | CH ₂ CH ₂ N(CH ₃)C(CH ₃) ₃ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | CH ₂ CH ₂ N(CH ₃)CH(CH ₃) ₂ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | CH ₂ CH=C(CH ₃) ₂ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ OCH ₃ |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ Cl |
| CH ₃ | 3 | 3,6-di-Cl-5-CH ₃ | CH ₂ CH ₂ CH=C(CH ₃) ₂ |
| F | 3 | 3,5,6-tri-F | (CH ₂) ₄ CH ₃ |
| F | 3 | 3,5,6-tri-F | (CH ₂) ₃ C(CH ₃) ₂ OC ₂ H ₅ |
| F | 3 | 3,5,6-tri-F | (CH ₂) ₅ CH ₃ |
| F | 3 | 3,5,6-tri-F | (CH ₂) ₆ CH ₃ |
| F | 3 | 3,5,6-tri-F | (CH ₂) ₃ C(CH ₃) ₂ Br |
| F | 3 | 3,5,6-tri-F | (CH ₂) ₇ CH ₃ |
| F | 3 | 3,5,6-tri-F | (CH ₂) ₃ CH(CH ₃) ₂ |
| F | 3 | 3,5,6-tri-F | (CH ₂) ₃ C(CH ₃) ₃ |
| F | 3 | 3,5,6-tri-F | (CH ₂) ₃ Si(CH ₃) ₃ |
| F | 3 | 3,5,6-tri-F | (CH ₂) ₂ CH(CH ₃)CH ₂ C(CH ₃) ₃ |
| F | 3 | 3,5,6-tri-F | (CH ₂) ₃ C(=CH ₂)CH(CH ₃) ₂ |
| F | 3 | 3,5,6-tri-F | (CH ₂) ₃ CH(CH ₃)C ₂ H ₅ |
| F | 3 | 3,5,6-tri-F | (CH ₂) ₂ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| F | 3 | 3,5,6-tri-F | (CH ₂) ₂ OC(CH ₃) ₃ |
| F | 3 | 3,5,6-tri-F | (CH ₂) ₂ SC(CH ₃) ₃ |
| F | 3 | 3,5,6-tri-F | (CH ₂) ₂ SCH(CH ₃) ₂ |
| F | 3 | 3,5,6-tri-F | CH ₂ CH=CHC(CH ₃) ₃ |
| F | 3 | 3,5,6-tri-F | CH ₂ CH=CHCH(CH ₃) ₂ |
| F | 3 | 3,5,6-tri-F | (CH ₂) ₂ S(=O)C(CH ₃) ₃ |
| F | 3 | 3,5,6-tri-F | (CH ₂) ₃ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| F | 3 | 3,5,6-tri-F | (CH ₂) ₂ OCH(CH ₃) ₂ |
| F | 3 | 3,5,6-tri-F | (CH ₂) ₃ OC(CH ₃) ₃ |

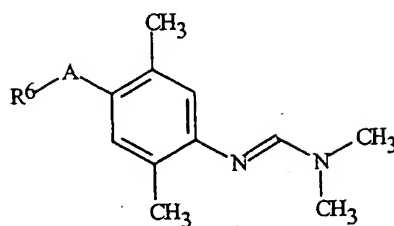
| <u>R⁴</u> | <u>m</u> | <u>R⁵</u> | <u>R⁶</u> |
|----------------------|----------|----------------------|---|
| F | 3 | 3,5,6-tri-F | (CH ₂) ₃ P(=O)(CH ₃) ₂ |
| F | 3 | 3,5,6-tri-F | CH ₂ C(=O)CH ₂ C(CH ₃) ₃ |
| F | 3 | 3,5,6-tri-F | CH(CH ₃)(CH ₂) ₃ CH ₃ |
| F | 3 | 3,5,6-tri-F | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| F | 3 | 3,5,6-tri-F | CH(CH ₃)CH ₂ CH ₂ C(CH ₃) ₃ |
| F | 3 | 3,5,6-tri-F | CH(C ₂ H ₅)CH ₂ CH ₂ CH(CH ₃) ₂ |
| F | 3 | 3,5,6-tri-F | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| F | 3 | 3,5,6-tri-F | CH(CH ₂ CH ₂ CH(CH ₃) ₂) ₂ |
| F | 3 | 3,5,6-tri-F | CH ₂ CH ₂ CH ₂ N(CH ₃) ₂ |
| F | 3 | 3,5,6-tri-F | CH ₂ CH ₂ N(CH ₃)C(CH ₃) ₃ |
| F | 3 | 3,5,6-tri-F | CH ₂ CH ₂ N(CH ₃)CH(CH ₃) ₂ |
| F | 3 | 3,5,6-tri-F | CH ₂ CH=C(CH ₃) ₂ |
| F | 3 | 3,5,6-tri-F | (CH ₂) ₃ C(CH ₃) ₂ OCH ₃ |
| F | 3 | 3,5,6-tri-F | (CH ₂) ₃ C(CH ₃) ₂ Cl |
| F | 3 | 3,5,6-tri-F | CH ₂ CH ₂ CH=C(CH ₃) ₂ |
| Cl | 3 | 3,5,6-tri-Cl | (CH ₂) ₄ CH ₃ |
| Cl | 3 | 3,5,6-tri-Cl | (CH ₂) ₃ C(CH ₃) ₂ OC ₂ H ₅ |
| Cl | 3 | 3,5,6-tri-Cl | (CH ₂) ₅ CH ₃ |
| Cl | 3 | 3,5,6-tri-Cl | (CH ₂) ₆ CH ₃ |
| Cl | 3 | 3,5,6-tri-Cl | (CH ₂) ₃ C(CH ₃) ₂ Br |
| Cl | 3 | 3,5,6-tri-Cl | (CH ₂) ₇ CH ₃ |
| Cl | 3 | 3,5,6-tri-Cl | (CH ₂) ₃ CH(CH ₃) ₂ |
| Cl | 3 | 3,5,6-tri-Cl | (CH ₂) ₃ C(CH ₃) ₃ |
| Cl | 3 | 3,5,6-tri-Cl | (CH ₂) ₃ Si(CH ₃) ₃ |
| Cl | 3 | 3,5,6-tri-Cl | (CH ₂) ₂ CH(CH ₃)CH ₂ C(CH ₃) ₃ |
| Cl | 3 | 3,5,6-tri-Cl | (CH ₂) ₃ C(=CH ₂)CH(CH ₃) ₂ |
| Cl | 3 | 3,5,6-tri-Cl | (CH ₂) ₃ CH(CH ₃)C ₂ H ₅ |
| Cl | 3 | 3,5,6-tri-Cl | (CH ₂) ₂ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| Cl | 3 | 3,5,6-tri-Cl | (CH ₂) ₂ OC(CH ₃) ₃ |
| Cl | 3 | 3,5,6-tri-Cl | (CH ₂) ₂ SC(CH ₃) ₃ |
| Cl | 3 | 3,5,6-tri-Cl | (CH ₂) ₂ SCH(CH ₃) ₂ |
| Cl | 3 | 3,5,6-tri-Cl | CH ₂ CH=CHC(CH ₃) ₃ |
| Cl | 3 | 3,5,6-tri-Cl | CH ₂ CH=CHCH(CH ₃) ₂ |
| Cl | 3 | 3,5,6-tri-Cl | (CH ₂) ₂ S(=O)C(CH ₃) ₃ |
| Cl | 3 | 3,5,6-tri-Cl | (CH ₂) ₃ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| Cl | 3 | 3,5,6-tri-Cl | (CH ₂) ₂ OCH(CH ₃) ₂ |
| Cl | 3 | 3,5,6-tri-Cl | (CH ₂) ₃ OC(CH ₃) ₃ |

| R^4 | m | R^5 | R^6 |
|-----------------|-----|-------------------------------------|--------------------------------------|
| Cl | 3 | 3,5,6-tri-Cl | $(CH_2)_3P(=O)(CH_3)_2$ |
| Cl | 3 | 3,5,6-tri-Cl | $CH_2C(=O)CH_2C(CH_3)_3$ |
| Cl | 3 | 3,5,6-tri-Cl | $CH(CH_3)(CH_2)_3CH_3$ |
| Cl | 3 | 3,5,6-tri-Cl | $CH(CH_3)CH_2CH_2CH(CH_3)_2$ |
| Cl | 3 | 3,5,6-tri-Cl | $CH(CH_3)CH_2CH_2C(CH_3)_3$ |
| Cl | 3 | 3,5,6-tri-Cl | $CH(C_2H_5)CH_2CH_2CH(CH_3)_2$ |
| Cl | 3 | 3,5,6-tri-Cl | $CH(CH_2CH_2CH_3)CH_2CH_2CH(CH_3)_2$ |
| Cl | 3 | 3,5,6-tri-Cl | $CH(CH_2CH_2CH(CH_3)_2)_2$ |
| Cl | 3 | 3,5,6-tri-Cl | $CH_2CH_2CH_2N(CH_3)_2$ |
| Cl | 3 | 3,5,6-tri-Cl | $CH_2CH_2N(CH_3)C(CH_3)_3$ |
| Cl | 3 | 3,5,6-tri-Cl | $CH_2CH_2N(CH_3)CH(CH_3)_2$ |
| Cl | 3 | 3,5,6-tri-Cl | $CH_2CH=C(CH_3)_2$ |
| Cl | 3 | 3,5,6-tri-Cl | $(CH_2)_3C(CH_3)_2OCH_3$ |
| Cl | 3 | 3,5,6-tri-Cl | $(CH_2)_3C(CH_3)_2Cl$ |
| Cl | 3 | 3,5,6-tri-Cl | $CH_2CH_2CH=C(CH_3)_2$ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | $(CH_2)_4CH_3$ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | $(CH_2)_3C(CH_3)_2OC_2H_5$ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | $(CH_2)_5CH_3$ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | $(CH_2)_6CH_3$ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | $(CH_2)_3C(CH_3)_2Br$ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | $(CH_2)_7CH_3$ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | $(CH_2)_3CH(CH_3)_2$ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | $(CH_2)_3C(CH_3)_3$ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | $(CH_2)_3Si(CH_3)_3$ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | $(CH_2)_2CH(CH_3)CH_2C(CH_3)_3$ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | $(CH_2)_3C(=CH_2)CH(CH_3)_2$ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | $(CH_2)_3CH(CH_3)C_2H_5$ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | $(CH_2)_2OSi(CH_3)_2C(CH_3)_3$ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | $(CH_2)_2OC(CH_3)_3$ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | $(CH_2)_2SC(CH_3)_3$ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | $(CH_2)_2SCH(CH_3)_2$ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | $CH_2CH=CHC(CH_3)_3$ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | $CH_2CH=CHCH(CH_3)_2$ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | $(CH_2)_2S(=O)C(CH_3)_3$ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | $(CH_2)_3OSi(CH_3)_2C(CH_3)_3$ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | $(CH_2)_2OCH(CH_3)_2$ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | $(CH_2)_3OC(CH_3)_3$ |

| <u>R⁴</u> | <u>m</u> | <u>R⁵</u> | <u>R⁶</u> |
|----------------------|----------|-------------------------------------|---|
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | (CH ₂) ₃ P(=O)(CH ₃) ₂ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | CH ₂ C(=O)CH ₂ C(CH ₃) ₃ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | CH(CH ₃)(CH ₂) ₃ CH ₃ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | CH(CH ₃)CH ₂ CH ₂ C(CH ₃) ₃ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | CH(C ₂ H ₅)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | CH(CH ₂ CH ₂ CH(CH ₃) ₂) ₂ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | CH ₂ CH ₂ CH ₂ N(CH ₃) ₂ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | CH ₂ CH ₂ N(CH ₃)C(CH ₃) ₃ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | CH ₂ CH ₂ N(CH ₃)CH(CH ₃) ₂ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | CH ₂ CH=C(CH ₃) ₂ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | (CH ₂) ₃ C(CH ₃) ₂ OCH ₃ |
| CH ₃ | 1 | 5-CH(CH ₃) ₂ | (CH ₂) ₃ C(CH ₃) ₂ Cl |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | (CH ₂) ₄ CH ₃ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | (CH ₂) ₃ C(CH ₃) ₂ OC ₂ H ₅ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | (CH ₂) ₅ CH ₃ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | (CH ₂) ₆ CH ₃ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | (CH ₂) ₃ C(CH ₃) ₂ Br |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | (CH ₂) ₇ CH ₃ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | (CH ₂) ₃ CH(CH ₃) ₂ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | (CH ₂) ₃ C(CH ₃) ₃ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | (CH ₂) ₃ Si(CH ₃) ₃ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | (CH ₂) ₂ CH(CH ₃)CH ₂ C(CH ₃) ₃ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | (CH ₂) ₃ C(=CH ₂)CH(CH ₃) ₂ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | (CH ₂) ₃ CH(CH ₃)C ₂ H ₅ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | (CH ₂) ₂ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | (CH ₂) ₂ OC(CH ₃) ₃ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | (CH ₂) ₂ SC(CH ₃) ₃ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | (CH ₂) ₂ SCH(CH ₃) ₂ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | CH ₂ CH=CHC(CH ₃) ₃ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | CH ₂ CH=CHCH(CH ₃) ₂ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | (CH ₂) ₂ S(=O)C(CH ₃) ₃ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | (CH ₂) ₃ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | (CH ₂) ₂ OCH(CH ₃) ₂ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | (CH ₂) ₃ OC(CH ₃) ₃ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | (CH ₂) ₃ P(=O)(CH ₃) ₂ |

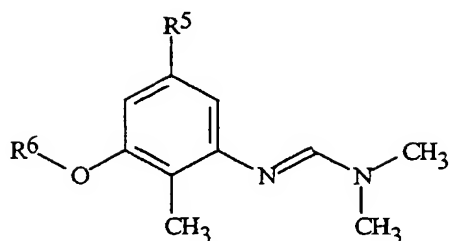
| R^4 | m | R^5 | R^6 |
|-----------------|-----|------------------------------------|---|
| CH ₃ | 1 | 5-C(CH ₃) ₃ | CH ₂ C(=O)CH ₂ C(CH ₃) ₃ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | CH(CH ₃)(CH ₂) ₃ CH ₃ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | CH(CH ₃)CH ₂ CH ₂ C(CH ₃) ₃ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | CH(C ₂ H ₅)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | CH(CH ₂ CH ₂ CH(CH ₃) ₂) ₂ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | CH ₂ CH ₂ CH ₂ N(CH ₃) ₂ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | CH ₂ CH ₂ N(CH ₃)C(CH ₃) ₃ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | CH ₂ CH ₂ N(CH ₃)CH(CH ₃) ₂ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | CH ₂ CH=C(CH ₃) ₂ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | (CH ₂) ₃ C(CH ₃) ₂ OCH ₃ |
| CH ₃ | 1 | 5-C(CH ₃) ₃ | (CH ₂) ₃ C(CH ₃) ₂ Cl |

TABLE 5



| A | R^6 |
|----|--|
| NH | C(=O)CH ₂ SC(CH ₃) ₃ |
| NH | C(=O)CH ₂ S(=O)C(CH ₃) ₃ |
| NH | C(=O)CH ₂ S(=O) ₂ C(CH ₃) ₃ |
| NH | C(=O)OCH ₂ C(CH ₃) ₃ |
| NH | C(=O)NHCH ₂ C(CH ₃) ₃ |
| NH | C(=O)N(CH ₃)CH ₂ C(CH ₃) ₃ |
| NH | C(=O)OCH ₂ CH(CH ₃) ₂ |
| NH | C(=O)NHCH ₂ CH(CH ₃) ₂ |
| NH | C(=O)N(CH ₃)CH ₂ CH(CH ₃) ₂ |
| O | C(CH ₃) ₂ CH ₂ CH ₂ CH(CH ₃) ₂ |
| O | C(CH ₃)(CH ₂ CH ₂ CH ₂ CH ₃) ₂ |
| O | C(CH ₃)(CH ₂ CH ₂ CH ₃) ₂ |

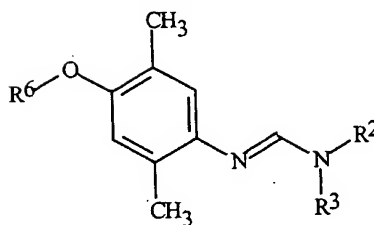
TABLE 6



| <u>R⁵</u> | <u>R⁶</u> |
|----------------------|---|
| 5-CH ₃ | (CH ₂) ₄ CH ₃ |
| 5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ OC ₂ H ₅ |
| 5-CH ₃ | (CH ₂) ₅ CH ₃ |
| 5-CH ₃ | (CH ₂) ₆ CH ₃ |
| 5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ Br |
| 5-CH ₃ | (CH ₂) ₇ CH ₃ |
| 5-CH ₃ | (CH ₂) ₃ CH(CH ₃) ₂ |
| 5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₃ |
| 5-CH ₃ | (CH ₂) ₃ Si(CH ₃) ₃ |
| 5-CH ₃ | (CH ₂) ₂ CH(CH ₃)CH ₂ C(CH ₃) ₃ |
| 5-CH ₃ | (CH ₂) ₃ C(=CH ₂)CH(CH ₃) ₂ |
| 5-CH ₃ | (CH ₂) ₃ CH(CH ₃)C ₂ H ₅ |
| 5-CH ₃ | (CH ₂) ₂ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| 5-CH ₃ | (CH ₂) ₂ OC(CH ₃) ₃ |
| 5-CH ₃ | (CH ₂) ₂ SC(CH ₃) ₃ |
| 5-CH ₃ | (CH ₂) ₂ SCH(CH ₃) ₂ |
| 5-CH ₃ | CH ₂ CH=CHC(CH ₃) ₃ |
| 5-CH ₃ | CH ₂ CH=CHCH(CH ₃) ₂ |
| 5-CH ₃ | (CH ₂) ₂ S(=O)C(CH ₃) ₃ |
| 5-CH ₃ | (CH ₂) ₃ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| 5-CH ₃ | (CH ₂) ₂ OCH(CH ₃) ₂ |
| 5-CH ₃ | (CH ₂) ₃ OC(CH ₃) ₃ |
| 5-CH ₃ | (CH ₂) ₃ P(=O)(CH ₃) ₂ |
| 5-CH ₃ | CH ₂ C(=O)CH ₂ C(CH ₃) ₃ |
| 5-CH ₃ | CH(CH ₃)(CH ₂) ₃ CH ₃ |
| 5-CH ₃ | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| 5-CH ₃ | CH(CH ₃)CH ₂ CH ₂ C(CH ₃) ₃ |
| 5-CH ₃ | CH(C ₂ H ₅)CH ₂ CH ₂ CH(CH ₃) ₂ |
| 5-CH ₃ | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ |
| 5-CH ₃ | CH(CH ₂ CH ₂ CH(CH ₃) ₂) ₂ |

| R^5 | R^6 |
|-------------------|--|
| 5-CH ₃ | CH ₂ CH ₂ CH ₂ N(CH ₃) ₂ |
| 5-CH ₃ | CH ₂ CH ₂ N(CH ₃)C(CH ₃) ₃ |
| 5-CH ₃ | CH ₂ CH ₂ N(CH ₃)CH(CH ₃) ₂ |
| 5-CH ₃ | CH ₂ CH=C(CH ₃) ₂ |
| 5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ OCH ₃ |
| 5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₂ Cl |
| 5-CH ₃ | CH ₂ CH ₂ CH=C(CH ₃) ₂ |

TABLE 7



| $R^2 + R^3$ | R^6 |
|------------------------------------|--|
| -(CH ₂) ₄ - | (CH ₂) ₄ CH ₃ |
| -(CH ₂) ₄ - | (CH ₂) ₃ C(CH ₃) ₂ OC ₂ H ₅ |
| -(CH ₂) ₄ - | (CH ₂) ₅ CH ₃ |
| -(CH ₂) ₄ - | (CH ₂) ₆ CH ₃ |
| -(CH ₂) ₄ - | (CH ₂) ₃ C(CH ₃) ₂ Br |
| -(CH ₂) ₄ - | (CH ₂) ₇ CH ₃ |
| -(CH ₂) ₄ - | (CH ₂) ₃ CH(CH ₃) ₂ |
| -(CH ₂) ₄ - | (CH ₂) ₃ C(CH ₃) ₃ |
| -(CH ₂) ₄ - | (CH ₂) ₃ Si(CH ₃) ₃ |
| -(CH ₂) ₄ - | (CH ₂) ₂ CH(CH ₃)CH ₂ C(CH ₃) ₃ |
| -(CH ₂) ₄ - | (CH ₂) ₃ C(=CH ₂)CH(CH ₃) ₂ |
| -(CH ₂) ₄ - | (CH ₂) ₃ CH(CH ₃)C ₂ H ₅ |
| -(CH ₂) ₄ - | (CH ₂) ₂ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| -(CH ₂) ₄ - | (CH ₂) ₂ OC(CH ₃) ₃ |
| -(CH ₂) ₄ - | (CH ₂) ₂ SC(CH ₃) ₃ |
| -(CH ₂) ₄ - | (CH ₂) ₂ SCH(CH ₃) ₂ |
| -(CH ₂) ₄ - | CH ₂ CH=CHC(CH ₃) ₃ |
| -(CH ₂) ₄ - | CH ₂ CH=CHCH(CH ₃) ₂ |
| -(CH ₂) ₄ - | (CH ₂) ₂ S(=O)C(CH ₃) ₃ |
| -(CH ₂) ₄ - | (CH ₂) ₃ OSi(CH ₃) ₂ C(CH ₃) ₃ |
| -(CH ₂) ₄ - | (CH ₂) ₂ OCH(CH ₃) ₂ |

R6

$$\begin{aligned}
&(\text{CH}_2)_3\text{OC}(\text{CH}_3)_3 \\
&(\text{CH}_2)_3\text{P}(\text{=O})(\text{CH}_3)_2 \\
&\text{CH}_2\text{C}(\text{=O})\text{CH}_2\text{C}(\text{CH}_3)_3 \\
&\text{CH}(\text{CH}_3)(\text{CH}_2)_3\text{CH}_3 \\
&\text{CH}(\text{CH}_3)\text{CH}_2\text{CH}_2\text{CH}(\text{CH}_3)_2 \\
&\text{CH}(\text{CH}_3)\text{CH}_2\text{CH}_2\text{C}(\text{CH}_3)_3 \\
&\text{CH}(\text{C}_2\text{H}_5)\text{CH}_2\text{CH}_2\text{CH}(\text{CH}_3)_2 \\
&\text{CH}(\text{CH}_2\text{CH}_2\text{CH}_3)\text{CH}_2\text{CH}_2\text{CH}(\text{CH}_3)_2 \\
&\text{CH}(\text{CH}_2\text{CH}_2\text{CH}(\text{CH}_3)_2)_2 \\
&\text{CH}_2\text{CH}_2\text{CH}_2\text{N}(\text{CH}_3)_2 \\
&\text{CH}_2\text{CH}_2\text{N}(\text{CH}_3)\text{C}(\text{CH}_3)_3 \\
&\text{CH}_2\text{CH}_2\text{N}(\text{CH}_3)\text{CH}(\text{CH}_3)_2 \\
&\text{CH}_2\text{CH}=\text{C}(\text{CH}_3)_2 \\
&(\text{CH}_2)_3\text{C}(\text{CH}_3)_2\text{OCH}_3 \\
&(\text{CH}_2)_3\text{C}(\text{CH}_3)_2\text{Cl} \\
&\text{CH}_2\text{CH}_2\text{CH}=\text{C}(\text{CH}_3)_2 \\
&(\text{CH}_2)_4\text{CH}_3 \\
&(\text{CH}_2)_3\text{C}(\text{CH}_3)_2\text{OC}_2\text{H}_5 \\
&(\text{CH}_2)_5\text{CH}_3 \\
&(\text{CH}_2)_6\text{CH}_3 \\
&(\text{CH}_2)_3\text{C}(\text{CH}_3)_2\text{Br} \\
&(\text{CH}_2)_7\text{CH}_3 \\
&(\text{CH}_2)_3\text{CH}(\text{CH}_3)_2 \\
&(\text{CH}_2)_3\text{C}(\text{CH}_3)_3 \\
&(\text{CH}_2)_3\text{Si}(\text{CH}_3)_3 \\
&(\text{CH}_2)_2\text{CH}(\text{CH}_3)\text{CH}_2\text{C}(\text{CH}_3)_3 \\
&(\text{CH}_2)_3\text{C}(\text{=CH}_2)\text{CH}(\text{CH}_3)_2 \\
&(\text{CH}_2)_3\text{CH}(\text{CH}_3)\text{C}_2\text{H}_5 \\
&(\text{CH}_2)_2\text{OSi}(\text{CH}_3)_2\text{C}(\text{CH}_3)_3 \\
&(\text{CH}_2)_2\text{OC}(\text{CH}_3)_3 \\
&(\text{CH}_2)_2\text{SC}(\text{CH}_3)_3 \\
&(\text{CH}_2)_2\text{SCH}(\text{CH}_3)_2 \\
&\text{CH}_2\text{CH}=\text{CHC}(\text{CH}_3)_3 \\
&\text{CH}_2\text{CH}=\text{CHCH}(\text{CH}_3)_2 \\
&(\text{CH}_2)_2\text{S}(\text{=O})\text{C}(\text{CH}_3)_3 \\
&(\text{CH}_2)_3\text{OSi}(\text{CH}_3)_2\text{C}(\text{CH}_3)_3 \\
&(\text{CH}_2)_2\text{OCH}(\text{CH}_3)_2
\end{aligned}$$

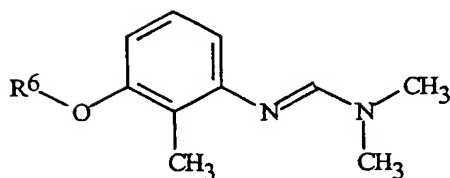
R² + R³

-(CH₂)₅-
 -(CH₂)₅-
 -(CH₂)₅-
 -(CH₂)₅-
 -(CH₂)₅-
 -(CH₂)₅-
 -(CH₂)₅-
 -(CH₂)₅-
 -(CH₂)₅-
 -(CH₂)₅-
 -(CH₂)₅-
 -(CH₂)₅-
 -(CH₂)₅-
 -(CH₂)₅-
 -(CH₂)₅-

R⁶

(CH₂)₃OC(CH₃)₃
 (CH₂)₃P(=O)(CH₃)₂
 CH₂C(=O)CH₂C(CH₃)₃
 CH(CH₃)(CH₂)₃CH₃
 CH(CH₃)CH₂CH₂CH(CH₃)₂
 CH(CH₃)CH₂CH₂C(CH₃)₃
 CH(C₂H₅)CH₂CH₂CH(CH₃)₂
 CH(CH₂CH₂CH₃)CH₂CH₂CH(CH₃)₂
 CH(CH₂CH₂CH(CH₃)₂)₂
 CH₂CH₂CH₂N(CH₃)₂
 CH₂CH₂N(CH₃)C(CH₃)₃
 CH₂CH₂N(CH₃)CH(CH₃)₂
 CH₂CH=C(CH₃)₂
 (CH₂)₃C(CH₃)₂OCH₃
 (CH₂)₃C(CH₃)₂Cl
 CH₂CH₂CH=C(CH₃)₂

TABLE 8

R⁶

(CH₂)₄CH₃
 (CH₂)₃C(CH₃)₂OC₂H₅
 (CH₂)₅CH₃
 (CH₂)₆CH₃
 (CH₂)₃C(CH₃)₂Br
 (CH₂)₇CH₃
 (CH₂)₃CH(CH₃)₂
 (CH₂)₃C(CH₃)₃
 (CH₂)₃Si(CH₃)₃
 (CH₂)₂CH(CH₃)CH₂C(CH₃)₃
 (CH₂)₃C(=CH₂)CH(CH₃)₂
 (CH₂)₃CH(CH₃)C₂H₅
 (CH₂)₂OSi(CH₃)₂C(CH₃)₃

R⁶

(CH₂)₃OSi(CH₃)₂C(CH₃)₃
 (CH₂)₂OCH(CH₃)₂
 (CH₂)₃OC(CH₃)₃
 (CH₂)₃P(=O)(CH₃)₂
 CH₂C(=O)CH₂C(CH₃)₃
 CH(CH₃)(CH₂)₃CH₃
 CH(CH₃)CH₂CH₂CH(CH₃)₂
 CH(CH₃)CH₂CH₂C(CH₃)₃
 CH(C₂H₅)CH₂CH₂CH(CH₃)₂
 CH(CH₂CH₂CH₃)CH₂CH₂CH(CH₃)₂
 CH(CH₂CH₂CH(CH₃)₂)₂
 CH₂CH₂CH₂N(CH₃)₂
 CH₂CH₂N(CH₃)C(CH₃)₃

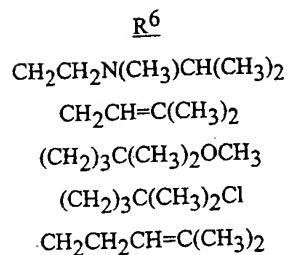
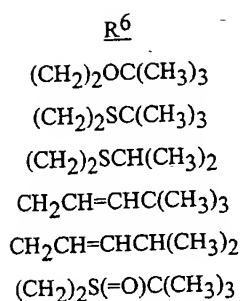
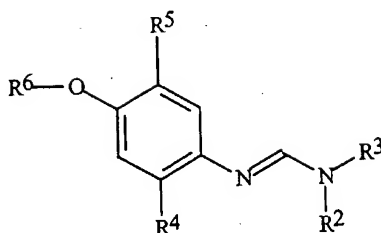


TABLE 9



| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> |
|--|-------------------------------|------------------------------------|----------------------|-------------------------------|
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₃ | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | <i>c</i> -Pr | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | C ₂ H ₅ |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> |
|--|-------------------------------|------------------------------------|----------------------|-------------------------------|
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ C≡CH | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₃ | C ₂ H ₅ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₃ | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | <i>c</i> -Pr | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ C≡CH | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₃ | Br |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> |
|--|-------------------------------|------------------------------------|----------------------|----------------------|
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₃ | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | c-Pr | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | c-Pr | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | c-Pr | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | c-Pr | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ C≡CH | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₃ | CH ₂ F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₃ | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | CHF ₂ |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> |
|--|-------------------------------|------------------------------------|----------------------|----------------------|
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | <i>c</i> -Pr | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ C≡CH | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₃ | CHF ₂ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₃ | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | CF ₃ |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> |
|--|-------------------------------|------------------------------------|----------------------|----------------------|
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | c-Pr | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | c-Pr | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | c-Pr | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ C≡CH | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₃ | CF ₃ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₃ | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | c-Pr | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | c-Pr | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | c-Pr | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | c-Pr | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CH ₂ Cl |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> |
|--|-------------------------------|------------------------------------|----------------------|----------------------|
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ C≡CH | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₃ | CH ₂ Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₃ | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Pr | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | <i>n</i> -Pr | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | CH ₂ Br |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ C≡CH | CH ₃ | CH ₂ Br |

| R^6 | R^2 | R^3 | R^4 | R^5 |
|----------------------------------|----------|------------------|----------|----------|
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | CH_2Br |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_2CH_2F | CH_3 | CH_2Br |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_2CH_2F | CH_3 | CH_2Br |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_3 | C_2H_5 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_3 | C_2H_5 | Cl |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | CH_3 | C_2H_5 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | CH_3 | C_2H_5 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | C_2H_5 | C_2H_5 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | C_2H_5 | C_2H_5 | Cl |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | C_2H_5 | C_2H_5 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | C_2H_5 | C_2H_5 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH(CH_3)_2$ | C_2H_5 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH(CH_3)_2$ | C_2H_5 | Cl |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH(CH_3)_2$ | C_2H_5 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH(CH_3)_2$ | C_2H_5 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | <i>c</i> -Pr | C_2H_5 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | <i>c</i> -Pr | C_2H_5 | Cl |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | <i>c</i> -Pr | C_2H_5 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | <i>c</i> -Pr | C_2H_5 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_3$ | C_2H_5 | C_2H_5 | C_2H_5 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | C_2H_5 | C_2H_5 | C_2H_5 | Cl |
| $CH_2CH_2CH_2CH(CH_3)_2$ | C_2H_5 | C_2H_5 | C_2H_5 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | C_2H_5 | C_2H_5 | C_2H_5 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | C_2H_5 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | C_2H_5 | Cl |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH_2CH=CH_2$ | C_2H_5 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2CH=CH_2$ | C_2H_5 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2C\equiv CH$ | C_2H_5 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2C\equiv CH$ | C_2H_5 | Cl |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH_2C\equiv CH$ | C_2H_5 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2C\equiv CH$ | C_2H_5 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_2CH_2F | C_2H_5 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_2CH_2F | C_2H_5 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_3 | CH_2Br | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_3 | CH_2Br | Cl |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | CH_3 | CH_2Br | Cl |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | CH_3 | CH_2Br | Cl |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> |
|--|-------------------------------|------------------------------------|----------------------|----------------------|
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH(CH ₃) ₂ | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | <i>c</i> -Pr | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ C≡CH | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₃ | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH(CH ₃) ₂ | CH ₂ Br | F |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> |
|--|-------------------------------|------------------------------------|-------------------------------|----------------------|
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | <i>c</i> -Pr | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ C≡CH | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₂ Br | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₃ | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH(CH ₃) ₂ | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | <i>c</i> -Pr | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | C ₂ H ₅ | F |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> |
|--|-------------------------------|------------------------------------|----------------------------------|----------------------|
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ C≡CH | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₃ | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH(CH ₃) ₂ | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Pr | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | <i>n</i> -Pr | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₂ SCH ₃ | Cl |

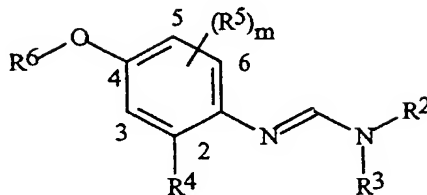
| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> |
|--|-------------------------------|------------------------------------|----------------------------------|----------------------|
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ C≡CH | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₂ SCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₃ | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH(CH ₃) ₂ | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | c-Pr | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | c-Pr | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | c-Pr | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | c-Pr | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ C≡CH | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₂ OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | CN |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> |
|--|-------------------------------|------------------------------------|----------------------|----------------------|
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₃ | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | <i>c</i> -Pr | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ C≡CH | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₃ | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CHO |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> |
|--|-------------------------------|------------------------------------|----------------------|----------------------|
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | <i>c</i> -Pr | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ C≡CH | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₃ | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH(CH ₃) ₂ | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | <i>c</i> -Pr | CH ₂ Br | C≡N |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> |
|--|-------------------------------|------------------------------------|----------------------|----------------------|
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ C≡CH | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₂ Br | C≡N |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₂ Br | C≡N |

TABLE 10



| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> | <u>m</u> |
|--|----------------------|-----------------------------------|----------------------|----------------------|----------|
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | 5,6-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | 5,6-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | CH ₃ | 5,6-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₃ | CH ₃ | 5,6-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | 5,6-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | 5,6-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₃ | 5,6-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | CH ₃ | 5,6-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | 5,6-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | 5,6-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | 5,6-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | CH ₃ | 5,6-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | 5,6-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | 5,6-di-Cl | 2 |

| R^6 | R^2 | R^3 | R^4 | R^5 | m |
|----------------------------------|----------|--------------------|--------|-----------|-----|
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | <i>c</i> -Pr | CH_3 | 5,6-di-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | <i>c</i> -Pr | CH_3 | 5,6-di-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | C_2H_5 | C_2H_5 | CH_3 | 5,6-di-Cl | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | C_2H_5 | C_2H_5 | CH_3 | 5,6-di-Cl | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | C_2H_5 | C_2H_5 | CH_3 | 5,6-di-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | C_2H_5 | C_2H_5 | CH_3 | 5,6-di-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 5,6-di-Cl | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 5,6-di-Cl | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 5,6-di-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 5,6-di-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | 5,6-di-Cl | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | 5,6-di-Cl | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | 5,6-di-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | 5,6-di-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_2CH_2F | CH_3 | 5,6-di-Cl | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_2CH_2F | CH_3 | 5,6-di-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH_2CH_3$ | CH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH_2CH_3$ | CH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2CH_2CH_3$ | CH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH_2CH_2CH_3$ | CH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH_2CH_2CH_3$ | CH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2CH_2CH_2CH_3$ | CH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | C_2H_5 | CH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | C_2H_5 | CH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | C_2H_5 | CH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | C_2H_5 | CH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH(CH_3)_2$ | CH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH(CH_3)_2$ | CH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH(CH_3)_2$ | CH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH(CH_3)_2$ | CH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | <i>c</i> -Pr | CH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | <i>c</i> -Pr | CH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | <i>c</i> -Pr | CH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | <i>c</i> -Pr | CH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | C_2H_5 | C_2H_5 | CH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | C_2H_5 | C_2H_5 | CH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | C_2H_5 | C_2H_5 | CH_3 | 5-Cl | 1 |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> | <u>m</u> |
|--|-------------------------------|---|----------------------|----------------------|----------|
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ | CH ₃ | CH ₂ C≡CH | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₃ | 5-Cl | 1 |
| CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₃ | CH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | CH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | CH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | CH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | <i>c</i> -Pr | CH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | CH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ CH ₃ | CH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH ₂ CH ₃ | CH ₃ | 5-F | 1 |

| R^6 | R^2 | R^3 | R^4 | R^5 | m |
|----------------------------------|----------|--------------------|---------|-----------------|-----|
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH_2CH_3$ | CH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH_2CH_2CH_3$ | CH_3 | 5-F | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH_2CH_2CH_3$ | CH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2CH_2CH_2CH_3$ | CH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_2CH_2F | CH_3 | 5-F | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_2CH_2F | CH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH_2CH_3$ | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH_2CH_2CH_3$ | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2CH_2CH_3$ | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2CH_2CH_2CH_3$ | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | C_2H_5 | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | C_2H_5 | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | C_2H_5 | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | C_2H_5 | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH(CH_3)_2$ | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH(CH_3)_2$ | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH(CH_3)_2$ | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH(CH_3)_2$ | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | <i>c</i> -Pr | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | <i>c</i> -Pr | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | <i>c</i> -Pr | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | <i>c</i> -Pr | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | C_2H_5 | C_2H_5 | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | C_2H_5 | C_2H_5 | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | C_2H_5 | C_2H_5 | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | C_2H_5 | C_2H_5 | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_2CH_2F | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_2CH_2F | CH_3 | 5- <i>i</i> -Pr | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_3 | SCH_3 | 5-Cl | 1 |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> | <u>m</u> |
|--|-------------------------------|---|----------------------|----------------------|----------|
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₃ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | <i>c</i> -Pr | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ CH ₃ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH ₂ CH ₃ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ CH ₃ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ CH ₂ CH ₃ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ CH ₂ CH ₃ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH ₂ CH ₂ CH ₃ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | OCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | OCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₃ | OCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | OCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | OCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | OCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | OCH ₃ | 5-Cl | 1 |

| R^6 | R^2 | R^3 | R^4 | R^5 | m |
|----------------------------------|----------|--------------------|-----------|-------|-----|
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH(CH_3)_2$ | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH(CH_3)_2$ | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH(CH_3)_2$ | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | <i>c</i> -Pr | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | <i>c</i> -Pr | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | <i>c</i> -Pr | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | <i>c</i> -Pr | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | C_2H_5 | C_2H_5 | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | C_2H_5 | C_2H_5 | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | C_2H_5 | C_2H_5 | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2CH=CH_2$ | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2C\equiv CH$ | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2C\equiv CH$ | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2C\equiv CH$ | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH_2CH_3$ | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2CH_2CH_3$ | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH_2CH_3$ | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH_2CH_2CH_3$ | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH_2CH_2CH_3$ | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2CH_2CH_2CH_3$ | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_2CH_2F | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_2CH_2F | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_3 | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_3 | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | CH_3 | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | C_2H_5 | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | C_2H_5 | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | C_2H_5 | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | C_2H_5 | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH(CH_3)_2$ | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH(CH_3)_2$ | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH(CH_3)_2$ | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | <i>c</i> -Pr | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | <i>c</i> -Pr | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | <i>c</i> -Pr | OC_2H_5 | 5-Cl | 1 |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> | <u>m</u> |
|--|-------------------------------|---|--------------------------------|----------------------|----------|
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | <i>c</i> -Pr | OC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | OC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | OC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | OC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | OC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | OC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | OC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | OC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | OC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | OC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ CH ₃ | OC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH ₂ CH ₃ | OC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ CH ₃ | OC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ CH ₂ CH ₃ | OC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ CH ₂ CH ₃ | OC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH ₂ CH ₂ CH ₃ | OC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | OC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | OC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₃ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | <i>c</i> -Pr | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | SCH ₃ | 5-F | 1 |

| R^6 | R^2 | R^3 | R^4 | R^5 | m |
|----------------------------------|----------|--------------------|---------|-------|-----|
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2CH=CH_2$ | SCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2C\equiv CH$ | SCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2C\equiv CH$ | SCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2C\equiv CH$ | SCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH_2CH_3$ | SCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2CH_2CH_3$ | SCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH_2CH_3$ | SCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH_2CH_2CH_3$ | SCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH_2CH_2CH_3$ | SCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2CH_2CH_2CH_3$ | SCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_2CH_2F | SCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_2CH_2F | SCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_3 | OCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_3 | OCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | CH_3 | OCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | C_2H_5 | OCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | C_2H_5 | OCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | C_2H_5 | OCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | C_2H_5 | OCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH(CH_3)_2$ | OCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH(CH_3)_2$ | OCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH(CH_3)_2$ | OCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | <i>c</i> -Pr | OCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | <i>c</i> -Pr | OCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | <i>c</i> -Pr | OCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | <i>c</i> -Pr | OCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | C_2H_5 | C_2H_5 | OCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | C_2H_5 | C_2H_5 | OCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | C_2H_5 | C_2H_5 | OCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | OCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | OCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2CH=CH_2$ | OCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2C\equiv CH$ | OCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2C\equiv CH$ | OCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2C\equiv CH$ | OCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH_2CH_3$ | OCH_3 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2CH_2CH_3$ | OCH_3 | 5-F | 1 |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> | <u>m</u> |
|--|-------------------------------|---|--------------------------------|----------------------|----------|
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ CH ₃ | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ CH ₂ CH ₃ | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ CH ₂ CH ₃ | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH ₂ CH ₂ CH ₃ | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₃ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | <i>c</i> -Pr | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ CH ₃ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH ₂ CH ₃ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ CH ₃ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ CH ₂ CH ₃ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ CH ₂ CH ₃ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH ₂ CH ₂ CH ₃ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | OC ₂ H ₅ | 5-F | 1 |

| R^6 | R^2 | R^3 | R^4 | R^5 | m |
|----------------------------------|----------|--------------------|-----------|-------|-----|
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_3 | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_3 | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | CH_3 | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | C_2H_5 | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | C_2H_5 | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | C_2H_5 | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | C_2H_5 | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH(CH_3)_2$ | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH(CH_3)_2$ | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH(CH_3)_2$ | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | <i>c</i> -Pr | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | <i>c</i> -Pr | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | <i>c</i> -Pr | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | <i>c</i> -Pr | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | C_2H_5 | C_2H_5 | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | C_2H_5 | C_2H_5 | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | C_2H_5 | C_2H_5 | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2CH=CH_2$ | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2C\equiv CH$ | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2C\equiv CH$ | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2C\equiv CH$ | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH_2CH_3$ | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2CH_2CH_3$ | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH_2CH_3$ | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH_2CH_2CH_3$ | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH_2CH_2CH_3$ | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2CH_2CH_2CH_3$ | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_2CH_2F | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_2CH_2F | SC_2H_5 | 5-F | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_3 | SC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_3 | SC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | CH_3 | SC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | C_2H_5 | SC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | C_2H_5 | SC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | C_2H_5 | SC_2H_5 | 5-Cl | 1 |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> | <u>m</u> |
|--|-------------------------------|---|--------------------------------|------------------------|----------|
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | <i>c</i> -Pr | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ CH ₃ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH ₂ CH ₃ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ CH ₃ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ CH ₂ CH ₃ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ CH ₂ CH ₃ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH ₂ CH ₂ CH ₃ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | 5,6-di-CH ₃ | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | 5,6-di-CH ₃ | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₃ | 5,6-di-CH ₃ | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | CH ₃ | 5,6-di-CH ₃ | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | 5,6-di-CH ₃ | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | 5,6-di-CH ₃ | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | 5,6-di-CH ₃ | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | CH ₃ | 5,6-di-CH ₃ | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | 5,6-di-CH ₃ | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | 5,6-di-CH ₃ | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | CH ₃ | 5,6-di-CH ₃ | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | <i>c</i> -Pr | CH ₃ | 5,6-di-CH ₃ | 2 |

| R^6 | R^2 | R^3 | R^4 | R^5 | m |
|----------------------------------|----------|------------------|--------|----------------|-----|
| $CH_2CH_2CH_2Si(CH_3)_3$ | C_2H_5 | C_2H_5 | CH_3 | 5,6-di- CH_3 | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | C_2H_5 | C_2H_5 | CH_3 | 5,6-di- CH_3 | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | C_2H_5 | C_2H_5 | CH_3 | 5,6-di- CH_3 | 2 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | C_2H_5 | C_2H_5 | CH_3 | 5,6-di- CH_3 | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 5,6-di- CH_3 | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 5,6-di- CH_3 | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 5,6-di- CH_3 | 2 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 5,6-di- CH_3 | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | 5,6-di- CH_3 | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | 5,6-di- CH_3 | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | 5,6-di- CH_3 | 2 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | 5,6-di- CH_3 | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_2CH_2F | CH_3 | 5,6-di- CH_3 | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_2CH_2F | CH_3 | 5,6-di- CH_3 | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | C_2H_5 | Cl | 5- CH_3 | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | C_2H_5 | Cl | 5- CH_3 | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | C_2H_5 | Cl | 5- CH_3 | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | C_2H_5 | Cl | 5- CH_3 | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH(CH_3)_2$ | Cl | 5- CH_3 | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH(CH_3)_2$ | Cl | 5- CH_3 | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH(CH_3)_2$ | Cl | 5- CH_3 | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH(CH_3)_2$ | Cl | 5- CH_3 | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | <i>c</i> -Pr | Cl | 5- CH_3 | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | <i>c</i> -Pr | Cl | 5- CH_3 | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | <i>c</i> -Pr | Cl | 5- CH_3 | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | <i>c</i> -Pr | Cl | 5- CH_3 | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | C_2H_5 | C_2H_5 | Cl | 5- CH_3 | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | C_2H_5 | C_2H_5 | Cl | 5- CH_3 | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | C_2H_5 | C_2H_5 | Cl | 5- CH_3 | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | C_2H_5 | C_2H_5 | Cl | 5- CH_3 | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | Cl | 5- CH_3 | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | Cl | 5- CH_3 | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH_2CH=CH_2$ | Cl | 5- CH_3 | 1 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2CH=CH_2$ | Cl | 5- CH_3 | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2C\equiv CH$ | Cl | 5- CH_3 | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2C\equiv CH$ | Cl | 5- CH_3 | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH_2C\equiv CH$ | Cl | 5- CH_3 | 1 |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> | <u>m</u> |
|--|-------------------------------|------------------------------------|----------------------|-------------------------|----------|
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | Cl | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | Cl | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | Cl | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH(CH ₃) ₂ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Pr | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | <i>n</i> -Pr | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ C≡CH | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | 5-CH ₃ -6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | 5-CH ₃ -6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₃ | 5-CH ₃ -6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | CH ₃ | 5-CH ₃ -6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | 5-CH ₃ -6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | 5-CH ₃ -6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | 5-CH ₃ -6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | CH ₃ | 5-CH ₃ -6-Cl | 2 |

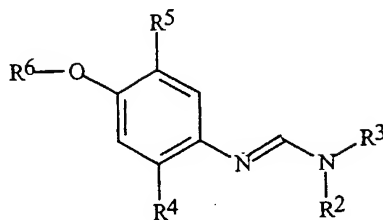
| R^6 | R^2 | R^3 | R^4 | R^5 | m |
|----------------------------------|----------|------------------|--------|-----------------|---|
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | c-Pr | CH_3 | 5- CH_3 -6-Cl | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | c-Pr | CH_3 | 5- CH_3 -6-Cl | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | c-Pr | CH_3 | 5- CH_3 -6-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | c-Pr | CH_3 | 5- CH_3 -6-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | C_2H_5 | C_2H_5 | CH_3 | 5- CH_3 -6-Cl | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | C_2H_5 | C_2H_5 | CH_3 | 5- CH_3 -6-Cl | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | C_2H_5 | C_2H_5 | CH_3 | 5- CH_3 -6-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | C_2H_5 | C_2H_5 | CH_3 | 5- CH_3 -6-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 5- CH_3 -6-Cl | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 5- CH_3 -6-Cl | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 5- CH_3 -6-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 5- CH_3 -6-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | 5- CH_3 -6-Cl | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | 5- CH_3 -6-Cl | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | 5- CH_3 -6-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | 5- CH_3 -6-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_2CH_2F | CH_3 | 5- CH_3 -6-Cl | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_2CH_2F | CH_3 | 5- CH_3 -6-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_3 | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_3 | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | CH_3 | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | CH_3 | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_3 | CH_3 | 3,5-di-Cl | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_3 | CH_3 | 3,5-di-Cl | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | CH_3 | CH_3 | 3,5-di-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | CH_3 | CH_3 | 3,5-di-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_3 | Cl | 3,5-di-Cl | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_3 | Cl | 3,5-di-Cl | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | CH_3 | Cl | 3,5-di-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | CH_3 | Cl | 3,5-di-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_3 | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_3 | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | CH_3 | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | CH_3 | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | C_2H_5 | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | C_2H_5 | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | C_2H_5 | CH_3 | 5- CH_3 -6-Br | 2 |

| R^6 | R^2 | R^3 | R^4 | R^5 | m |
|----------------------------------|----------|------------------|--------|-----------------|---|
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | C_2H_5 | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH(CH_3)_2$ | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH(CH_3)_2$ | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH(CH_3)_2$ | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH(CH_3)_2$ | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | <i>c</i> -Pr | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | <i>c</i> -Pr | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | <i>c</i> -Pr | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | <i>c</i> -Pr | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | C_2H_5 | C_2H_5 | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | C_2H_5 | C_2H_5 | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | C_2H_5 | C_2H_5 | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | C_2H_5 | C_2H_5 | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_2CH_2F | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_2CH_2F | CH_3 | 5- CH_3 -6-Br | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_3 | CH_3 | 5-Cl-6-Br | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_3 | CH_3 | 5-Cl-6-Br | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | CH_3 | CH_3 | 5-Cl-6-Br | 2 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | CH_3 | CH_3 | 5-Cl-6-Br | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | C_2H_5 | CH_3 | 5-Cl-6-Br | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | C_2H_5 | CH_3 | 5-Cl-6-Br | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | C_2H_5 | CH_3 | 5-Cl-6-Br | 2 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | C_2H_5 | CH_3 | 5-Cl-6-Br | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH(CH_3)_2$ | CH_3 | 5-Cl-6-Br | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH(CH_3)_2$ | CH_3 | 5-Cl-6-Br | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH(CH_3)_2$ | CH_3 | 5-Cl-6-Br | 2 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH(CH_3)_2$ | CH_3 | 5-Cl-6-Br | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | <i>c</i> -Pr | CH_3 | 5-Cl-6-Br | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | <i>c</i> -Pr | CH_3 | 5-Cl-6-Br | 2 |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> | <u>m</u> |
|--|-------------------------------|------------------------------------|----------------------|----------------------|----------|
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | CH ₃ | 5-Cl-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | <i>c</i> -Pr | CH ₃ | 5-Cl-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-Cl-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-Cl-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-Cl-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-Cl-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-Cl-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-Cl-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-Cl-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-Cl-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | 5-Cl-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | 5-Cl-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ C≡CH | CH ₃ | 5-Cl-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | CH ₃ | 5-Cl-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₃ | 5-Cl-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₃ | 5-Cl-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₃ | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | <i>c</i> -Pr | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-F-6-Cl | 2 |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> | <u>m</u> |
|--|-------------------------------|------------------------------------|----------------------|----------------------|----------|
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ C≡CH | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH ₂ F | CH ₃ | 5-F-6-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₃ | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH(CH ₃) ₂ | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH(CH ₃) ₂ | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | <i>c</i> -Pr | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ C≡CH | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ C≡CH | CH ₃ | 5-F-6-Br | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₂ C≡CH | CH ₃ | 5-F-6-Br | 2 |

TABLE 11



| R^6 | R^2+R^3 | R^4 | R^5 |
|----------------------------------|----------------------|--------|--------|
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2CH_2CH_2-$ | CH_3 | CH_3 |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2CH_2CH_2-$ | CH_3 | CH_3 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2CH_2CH_2-$ | CH_3 | CH_3 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | $-CH_2CH_2CH_2-$ | CH_3 | CH_3 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2CHCH_3-$ | CH_3 | CH_3 |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2CHCH_3-$ | CH_3 | CH_3 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2CHCH_3-$ | CH_3 | CH_3 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | $-CH_2CHCH_3-$ | CH_3 | CH_3 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2CH=CHCH_2-$ | CH_3 | CH_3 |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2CH=CHCH_2-$ | CH_3 | CH_3 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2CH=CHCH_2-$ | CH_3 | CH_3 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | $-CH_2CH=CHCH_2-$ | CH_3 | CH_3 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2SCH_2CH_2-$ | CH_3 | CH_3 |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2SCH_2CH_2-$ | CH_3 | CH_3 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2SCH_2CH_2-$ | CH_3 | CH_3 |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | $-CH_2SCH_2CH_2-$ | CH_3 | CH_3 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2CH_2CH_2CH_2-$ | CH_3 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2CH_2CH_2CH_2-$ | CH_3 | Cl |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2CH_2CH_2CH_2-$ | CH_3 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | $-CH_2CH_2CH_2CH_2-$ | CH_3 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2CH_2CH_2-$ | CH_3 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2CH_2CH_2-$ | CH_3 | Cl |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2CH_2CH_2-$ | CH_3 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | $-CH_2CH_2CH_2-$ | CH_3 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2CHCH_3-$ | CH_3 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2CHCH_3-$ | CH_3 | Cl |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2CHCH_3-$ | CH_3 | Cl |

| <u>R⁶</u> | <u>R^{2+R³}</u> | <u>R⁴</u> | <u>R⁵</u> |
|--|--|----------------------|----------------------|
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CHCH ₃ - | CH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | CH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | CH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH=CHCH ₂ - | CH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH=CHCH ₂ - | CH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | CH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | CH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ SCH ₂ CH ₂ - | CH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ SCH ₂ CH ₂ - | CH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ CH ₂ - | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ CH ₂ - | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH ₂ CH ₂ CH ₂ - | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH ₂ CH ₂ CH ₂ - | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ - | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ - | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH ₂ CH ₂ - | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH ₂ CH ₂ - | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CHCH ₃ - | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CHCH ₃ - | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CHCH ₃ - | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CHCH ₃ - | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH=CHCH ₂ - | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH=CHCH ₂ - | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ SCH ₂ CH ₂ - | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ SCH ₂ CH ₂ - | CH ₃ | Br |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ CH ₂ - | CH ₃ | <i>i</i> -Pr |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ CH ₂ - | CH ₃ | <i>i</i> -Pr |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH ₂ CH ₂ CH ₂ - | CH ₃ | <i>i</i> -Pr |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH ₂ CH ₂ CH ₂ - | CH ₃ | <i>i</i> -Pr |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ - | CH ₃ | <i>i</i> -Pr |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ - | CH ₃ | <i>i</i> -Pr |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH ₂ CH ₂ - | CH ₃ | <i>i</i> -Pr |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH ₂ CH ₂ - | CH ₃ | <i>i</i> -Pr |

| <u>R⁶</u> | <u>R²+R³</u> | <u>R⁴</u> | <u>R⁵</u> |
|--|--|----------------------|----------------------|
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CHCH ₃ - | CH ₃ | <i>i</i> -Pr |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CHCH ₃ - | CH ₃ | <i>i</i> -Pr |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CHCH ₃ - | CH ₃ | <i>i</i> -Pr |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CHCH ₃ - | CH ₃ | <i>i</i> -Pr |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | CH ₃ | <i>i</i> -Pr |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | CH ₃ | <i>i</i> -Pr |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH=CHCH ₂ - | CH ₃ | <i>i</i> -Pr |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH=CHCH ₂ - | CH ₃ | <i>i</i> -Pr |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | CH ₃ | <i>i</i> -Pr |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | CH ₃ | <i>i</i> -Pr |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ SCH ₂ CH ₂ - | CH ₃ | <i>i</i> -Pr |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ SCH ₂ CH ₂ - | CH ₃ | <i>i</i> -Pr |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ CH ₂ - | CH ₃ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ CH ₂ - | CH ₃ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH ₂ CH ₂ CH ₂ - | CH ₃ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH ₂ CH ₂ CH ₂ - | CH ₃ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ - | CH ₃ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ - | CH ₃ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH ₂ CH ₂ - | CH ₃ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH ₂ CH ₂ - | CH ₃ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CHCH ₃ - | CH ₃ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CHCH ₃ - | CH ₃ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CHCH ₃ - | CH ₃ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CHCH ₃ - | CH ₃ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | CH ₃ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | CH ₃ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH=CHCH ₂ - | CH ₃ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH=CHCH ₂ - | CH ₃ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | CH ₃ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | CH ₃ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ SCH ₂ CH ₂ - | CH ₃ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ SCH ₂ CH ₂ - | CH ₃ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ CH ₂ - | OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ CH ₂ - | OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH ₂ CH ₂ CH ₂ - | OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH ₂ CH ₂ CH ₂ - | OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ - | OCH ₃ | Cl |

| <u>R⁶</u> | <u>R^{2+R³}</u> | <u>R⁴</u> | <u>R⁵</u> |
|--|--|--------------------------------|----------------------|
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ - | OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH ₂ CH ₂ - | OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH ₂ CH ₂ - | OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CHCH ₃ - | OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CHCH ₃ - | OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CHCH ₃ - | OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CHCH ₃ - | OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH=CHCH ₂ - | OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH=CHCH ₂ - | OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ SCH ₂ CH ₂ - | OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ SCH ₂ CH ₂ - | OCH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ CH ₂ - | OC ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ CH ₂ - | OC ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH ₂ CH ₂ CH ₂ - | OC ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH ₂ CH ₂ CH ₂ - | OC ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ - | OC ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ - | OC ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH ₂ CH ₂ - | OC ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH ₂ CH ₂ - | OC ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CHCH ₃ - | OC ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CHCH ₃ - | OC ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CHCH ₃ - | OC ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CHCH ₃ - | OC ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | OC ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | OC ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH=CHCH ₂ - | OC ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH=CHCH ₂ - | OC ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | OC ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | OC ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ SCH ₂ CH ₂ - | OC ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ SCH ₂ CH ₂ - | OC ₂ H ₅ | Cl |

| R^6 | R^2+R^3 | R^4 | R^5 |
|----------------------------------|----------------------|-----------|-------|
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2CH_2CH_2CH_2-$ | SCH_3 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2CH_2CH_2CH_2-$ | SCH_3 | Cl |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2CH_2CH_2CH_2-$ | SCH_3 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | $-CH_2CH_2CH_2CH_2-$ | SCH_3 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2CH_2CH_2-$ | SCH_3 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2CH_2CH_2-$ | SCH_3 | Cl |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2CH_2CH_2-$ | SCH_3 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | $-CH_2CH_2CH_2-$ | SCH_3 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2CHCH_3-$ | SCH_3 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2CHCH_3-$ | SCH_3 | Cl |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2CHCH_3-$ | SCH_3 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | $-CH_2CHCH_3-$ | SCH_3 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2CH=CHCH_2-$ | SCH_3 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2CH=CHCH_2-$ | SCH_3 | Cl |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2CH=CHCH_2-$ | SCH_3 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | $-CH_2CH=CHCH_2-$ | SCH_3 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2SCH_2CH_2-$ | SCH_3 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2SCH_2CH_2-$ | SCH_3 | Cl |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2SCH_2CH_2-$ | SCH_3 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | $-CH_2SCH_2CH_2-$ | SCH_3 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2CH_2CH_2CH_2-$ | SC_2H_5 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2CH_2CH_2CH_2-$ | SC_2H_5 | Cl |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2CH_2CH_2CH_2-$ | SC_2H_5 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | $-CH_2CH_2CH_2CH_2-$ | SC_2H_5 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2CH_2CH_2-$ | SC_2H_5 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2CH_2CH_2-$ | SC_2H_5 | Cl |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2CH_2CH_2-$ | SC_2H_5 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | $-CH_2CH_2CH_2-$ | SC_2H_5 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2CHCH_3-$ | SC_2H_5 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2CHCH_3-$ | SC_2H_5 | Cl |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2CHCH_3-$ | SC_2H_5 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | $-CH_2CHCH_3-$ | SC_2H_5 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2CH=CHCH_2-$ | SC_2H_5 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2CH=CHCH_2-$ | SC_2H_5 | Cl |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2CH=CHCH_2-$ | SC_2H_5 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | $-CH_2CH=CHCH_2-$ | SC_2H_5 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2SCH_2CH_2-$ | SC_2H_5 | Cl |

| <u>R⁶</u> | <u>R^{2+R³}</u> | <u>R⁴</u> | <u>R⁵</u> |
|--|--|--------------------------------|----------------------|
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | SC ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ SCH ₂ CH ₂ - | SC ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ SCH ₂ CH ₂ - | SC ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ CH ₂ - | C ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ CH ₂ - | C ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH ₂ CH ₂ CH ₂ - | C ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH ₂ CH ₂ CH ₂ - | C ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ - | C ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ - | C ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH ₂ CH ₂ - | C ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH ₂ CH ₂ - | C ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CHCH ₃ - | C ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CHCH ₃ - | C ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CHCH ₃ - | C ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CHCH ₃ - | C ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | C ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | C ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH=CHCH ₂ - | C ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH=CHCH ₂ - | C ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | C ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | C ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ SCH ₂ CH ₂ - | C ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ SCH ₂ CH ₂ - | C ₂ H ₅ | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ CH ₂ - | OCH ₃ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ CH ₂ - | OCH ₃ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH ₂ CH ₂ CH ₂ - | OCH ₃ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH ₂ CH ₂ CH ₂ - | OCH ₃ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ - | OCH ₃ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ - | OCH ₃ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH ₂ CH ₂ - | OCH ₃ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH ₂ CH ₂ - | OCH ₃ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CHCH ₃ - | OCH ₃ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CHCH ₃ - | OCH ₃ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CHCH ₃ - | OCH ₃ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CHCH ₃ - | OCH ₃ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | OCH ₃ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | OCH ₃ | F |

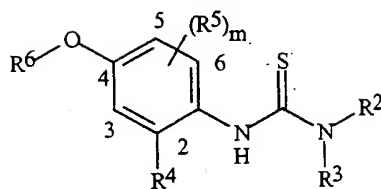
| R^6 | R^2+R^3 | R^4 | R^5 |
|----------------------------------|----------------------|-----------|-------|
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2CH=CHCH_2-$ | OCH_3 | F |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | $-CH_2CH=CHCH_2-$ | OCH_3 | F |
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2SCH_2CH_2-$ | OCH_3 | F |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2SCH_2CH_2-$ | OCH_3 | F |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2SCH_2CH_2-$ | OCH_3 | F |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | $-CH_2SCH_2CH_2-$ | OCH_3 | F |
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2CH_2CH_2CH_2-$ | OC_2H_5 | F |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2CH_2CH_2CH_2-$ | OC_2H_5 | F |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2CH_2CH_2CH_2-$ | OC_2H_5 | F |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | $-CH_2CH_2CH_2CH_2-$ | OC_2H_5 | F |
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2CH_2CH_2-$ | OC_2H_5 | F |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2CH_2CH_2-$ | OC_2H_5 | F |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2CH_2CH_2-$ | OC_2H_5 | F |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | $-CH_2CH_2CH_2-$ | OC_2H_5 | F |
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2CHCH_3-$ | OC_2H_5 | F |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2CHCH_3-$ | OC_2H_5 | F |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2CHCH_3-$ | OC_2H_5 | F |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | $-CH_2CHCH_3-$ | OC_2H_5 | F |
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2CH=CHCH_2-$ | OC_2H_5 | F |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2CH=CHCH_2-$ | OC_2H_5 | F |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2CH=CHCH_2-$ | OC_2H_5 | F |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | $-CH_2CH=CHCH_2-$ | OC_2H_5 | F |
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2SCH_2CH_2-$ | OC_2H_5 | F |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2SCH_2CH_2-$ | OC_2H_5 | F |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2SCH_2CH_2-$ | OC_2H_5 | F |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | $-CH_2SCH_2CH_2-$ | OC_2H_5 | F |
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2CH_2CH_2CH_2-$ | SCH_3 | F |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2CH_2CH_2CH_2-$ | SCH_3 | F |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2CH_2CH_2CH_2-$ | SCH_3 | F |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | $-CH_2CH_2CH_2CH_2-$ | SCH_3 | F |
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2CH_2CH_2-$ | SCH_3 | F |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2CH_2CH_2-$ | SCH_3 | F |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2CH_2CH_2-$ | SCH_3 | F |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | $-CH_2CH_2CH_2-$ | SCH_3 | F |
| $CH_2CH_2CH_2Si(CH_3)_3$ | $-CH_2CHCH_3-$ | SCH_3 | F |
| $CH_2CH_2CH_2C(CH_3)_3$ | $-CH_2CHCH_3-$ | SCH_3 | F |
| $CH_2CH_2CH_2CH(CH_3)_2$ | $-CH_2CHCH_3-$ | SCH_3 | F |

| <u>R⁶</u> | <u>R^{2+R³}</u> | <u>R⁴</u> | <u>R⁵</u> |
|--|--|--------------------------------|----------------------|
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CHCH ₃ - | SCH ₃ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | SCH ₃ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | SCH ₃ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH=CHCH ₂ - | SCH ₃ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH=CHCH ₂ - | SCH ₃ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | SCH ₃ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | SCH ₃ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ SCH ₂ CH ₂ - | SCH ₃ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ SCH ₂ CH ₂ - | SCH ₃ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ CH ₂ - | SC ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ CH ₂ - | SC ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH ₂ CH ₂ CH ₂ - | SC ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH ₂ CH ₂ CH ₂ - | SC ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ - | SC ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ - | SC ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH ₂ CH ₂ - | SC ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH ₂ CH ₂ - | SC ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CHCH ₃ - | SC ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CHCH ₃ - | SC ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CHCH ₃ - | SC ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CHCH ₃ - | SC ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | SC ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | SC ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH=CHCH ₂ - | SC ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH=CHCH ₂ - | SC ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | SC ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | SC ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ SCH ₂ CH ₂ - | SC ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ SCH ₂ CH ₂ - | SC ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ CH ₂ - | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ CH ₂ - | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH ₂ CH ₂ CH ₂ - | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH ₂ CH ₂ CH ₂ - | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ - | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ - | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH ₂ CH ₂ - | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH ₂ CH ₂ - | C ₂ H ₅ | F |

| <u>R⁶</u> | <u>R²+R³</u> | <u>R⁴</u> | <u>R⁵</u> |
|--|--|-------------------------------|----------------------|
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CHCH ₃ - | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CHCH ₃ - | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CHCH ₃ - | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CHCH ₃ - | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH=CHCH ₂ - | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH=CHCH ₂ - | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ SCH ₂ CH ₂ - | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ SCH ₂ CH ₂ - | C ₂ H ₅ | F |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ CH ₂ - | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ CH ₂ - | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH ₂ CH ₂ CH ₂ - | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH ₂ CH ₂ CH ₂ - | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ - | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ - | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH ₂ CH ₂ - | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH ₂ CH ₂ - | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CHCH ₃ - | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CHCH ₃ - | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CHCH ₃ - | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CHCH ₃ - | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH=CHCH ₂ - | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH=CHCH ₂ - | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ SCH ₂ CH ₂ - | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ SCH ₂ CH ₂ - | CH ₃ | CN |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ CH ₂ - | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ CH ₂ - | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH ₂ CH ₂ CH ₂ - | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH ₂ CH ₂ CH ₂ - | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ - | CH ₃ | CHO |

| <u>R⁶</u> | <u>R^{2+R³}</u> | <u>R⁴</u> | <u>R⁵</u> |
|--|--|----------------------|----------------------|
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ - | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH ₂ CH ₂ - | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH ₂ CH ₂ - | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CHCH ₃ - | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CHCH ₃ - | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CHCH ₃ - | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CHCH ₃ - | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH=CHCH ₂ - | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH=CHCH ₂ - | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ SCH ₂ CH ₂ - | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ SCH ₂ CH ₂ - | CH ₃ | CHO |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ CH ₂ - | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ CH ₂ - | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH ₂ CH ₂ CH ₂ - | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH ₂ CH ₂ CH ₂ - | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ - | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH ₂ CH ₂ - | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH ₂ CH ₂ - | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH ₂ CH ₂ - | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CHCH ₃ - | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CHCH ₃ - | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CHCH ₃ - | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CHCH ₃ - | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ CH=CHCH ₂ - | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ CH=CHCH ₂ - | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ CH=CHCH ₂ - | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | -CH ₂ SCH ₂ CH ₂ - | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | -CH ₂ SCH ₂ CH ₂ - | CH ₂ Br | Cl |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | -CH ₂ SCH ₂ CH ₂ - | CH ₂ Br | Cl |

TABLE 12



| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> | <u>m</u> |
|---|-------------------------------|------------------------------------|----------------------|----------------------|----------|
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | CH ₃ | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₃ | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>i</i> -Pr | CH ₃ | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>i</i> -Pr | CH ₃ | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>i</i> -Pr | CH ₃ | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | CH ₃ | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | CH ₃ | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | CH ₃ | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Pr | CH ₃ | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Bu | CH ₃ | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Bu | CH ₃ | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Bu | CH ₃ | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-CH ₃ | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₃ | 5-Cl | 1 |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> | <u>m</u> |
|---|-------------------------------|------------------------------------|----------------------|----------------------|----------|
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>i</i> -Pr | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>i</i> -Pr | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>i</i> -Pr | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Pr | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Bu | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Bu | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Bu | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | OCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | OCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | OCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | OCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | OCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | OCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>i</i> -Pr | OCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>i</i> -Pr | OCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>i</i> -Pr | OCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | OCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | OCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | OCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | OCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | OCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Pr | OCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Bu | OCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Bu | OCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Bu | OCH ₃ | 5-Cl | 1 |

| R^6 | R^2 | R^3 | R^4 | R^5 | m |
|--------------------------|----------|---------------|-----------|-------|-----|
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH_2CH=CH_2$ | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | C_2H_5 | C_2H_5 | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | C_2H_5 | C_2H_5 | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | C_2H_5 | C_2H_5 | OCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_3 | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_3 | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | CH_3 | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | C_2H_5 | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | C_2H_5 | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | C_2H_5 | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | <i>i</i> -Pr | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | <i>i</i> -Pr | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | <i>i</i> -Pr | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | <i>c</i> -Pr | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | <i>c</i> -Pr | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | <i>c</i> -Pr | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | <i>n</i> -Pr | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | <i>n</i> -Pr | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | <i>n</i> -Pr | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | <i>n</i> -Bu | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | <i>n</i> -Bu | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | <i>n</i> -Bu | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH_2CH=CH_2$ | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | C_2H_5 | C_2H_5 | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | C_2H_5 | C_2H_5 | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | C_2H_5 | C_2H_5 | OC_2H_5 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_3 | SCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_3 | SCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | CH_3 | SCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | C_2H_5 | SCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | C_2H_5 | SCH_3 | 5-Cl | 1 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | C_2H_5 | SCH_3 | 5-Cl | 1 |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> | <u>m</u> |
|---|-------------------------------|------------------------------------|--------------------------------|----------------------|----------|
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>i</i> -Pr | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>i</i> -Pr | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>i</i> -Pr | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Pr | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Bu | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Bu | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Bu | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | SCH ₃ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>i</i> -Pr | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>i</i> -Pr | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>i</i> -Pr | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Pr | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Bu | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Bu | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Bu | SC ₂ H ₅ | 5-Cl | 1 |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> | <u>m</u> |
|---|-------------------------------|------------------------------------|--------------------------------|----------------------|----------|
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | SC ₂ H ₅ | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>i</i> -Pr | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>i</i> -Pr | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>i</i> -Pr | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Pr | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Bu | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Bu | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Bu | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | OCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | OC ₂ H ₅ | 5-F | 1 |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> | <u>m</u> |
|---|-------------------------------|------------------------------------|--------------------------------|----------------------|----------|
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>i</i> -Pr | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>i</i> -Pr | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>i</i> -Pr | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Pr | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Bu | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Bu | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Bu | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | OC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>i</i> -Pr | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>i</i> -Pr | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>i</i> -Pr | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Pr | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Bu | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Bu | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Bu | SCH ₃ | 5-F | 1 |

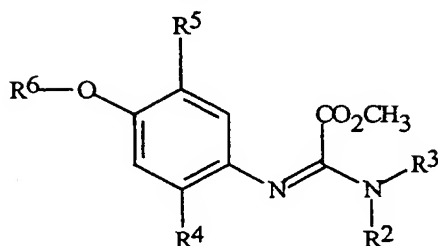
| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> | <u>m</u> |
|---|-------------------------------|------------------------------------|--------------------------------|----------------------|----------|
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | SCH ₃ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | SC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | SC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | SC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | SC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | SC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | SC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>i</i> -Pr | SC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>i</i> -Pr | SC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>i</i> -Pr | SC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | SC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | SC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | SC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | SC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | SC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Pr | SC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Bu | SC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Bu | SC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Bu | SC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | SC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | SC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | SC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | SC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | SC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | SC ₂ H ₅ | 5-F | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | Cl | 5-Cl | 1 |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> | <u>m</u> |
|---|-------------------------------|------------------------------------|----------------------|----------------------|----------|
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>i</i> -Pr | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>i</i> -Pr | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>i</i> -Pr | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Pr | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Bu | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Bu | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Bu | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | Cl | 5-Cl | 1 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | CH ₃ | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₃ | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>i</i> -Pr | CH ₃ | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>i</i> -Pr | CH ₃ | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>i</i> -Pr | CH ₃ | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | CH ₃ | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | CH ₃ | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | CH ₃ | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | CH ₃ | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Pr | CH ₃ | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Bu | CH ₃ | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Bu | CH ₃ | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Bu | CH ₃ | 3,5-di-Cl | 2 |

| R^6 | R^2 | R^3 | R^4 | R^5 | m |
|--------------------------|----------|---------------|--------|----------------|-----|
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 3,5-di-Cl | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 3,5-di-Cl | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 3,5-di-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | C_2H_5 | C_2H_5 | CH_3 | 3,5-di-Cl | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | C_2H_5 | C_2H_5 | CH_3 | 3,5-di-Cl | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | C_2H_5 | C_2H_5 | CH_3 | 3,5-di-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_3 | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_3 | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | CH_3 | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | C_2H_5 | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | C_2H_5 | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | C_2H_5 | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | <i>i</i> -Pr | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | <i>i</i> -Pr | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | <i>i</i> -Pr | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | <i>c</i> -Pr | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | <i>c</i> -Pr | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | <i>c</i> -Pr | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | <i>n</i> -Pr | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | <i>n</i> -Pr | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | <i>n</i> -Pr | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | <i>n</i> -Bu | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | <i>n</i> -Bu | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | <i>n</i> -Bu | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | C_2H_5 | C_2H_5 | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | C_2H_5 | C_2H_5 | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | C_2H_5 | C_2H_5 | CH_3 | 3-Cl-5- CH_3 | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_3 | Cl | 3,5-di-Cl | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_3 | Cl | 3,5-di-Cl | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | CH_3 | Cl | 3,5-di-Cl | 2 |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | C_2H_5 | Cl | 3,5-di-Cl | 2 |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | C_2H_5 | Cl | 3,5-di-Cl | 2 |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | C_2H_5 | Cl | 3,5-di-Cl | 2 |

| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> | <u>m</u> |
|---|-------------------------------|------------------------------------|----------------------|----------------------|----------|
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>i</i> -Pr | Cl | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>i</i> -Pr | Cl | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>i</i> -Pr | Cl | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | Cl | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>c</i> -Pr | Cl | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>c</i> -Pr | Cl | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | Cl | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Pr | Cl | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Pr | Cl | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | <i>n</i> -Bu | Cl | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | <i>n</i> -Bu | Cl | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | <i>n</i> -Bu | Cl | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | Cl | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₂ CH=CH ₂ | Cl | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₂ CH=CH ₂ | Cl | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | Cl | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | C ₂ H ₅ | C ₂ H ₅ | Cl | 3,5-di-Cl | 2 |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | C ₂ H ₅ | C ₂ H ₅ | Cl | 3,5-di-Cl | 2 |

TABLE 13



| <u>R⁶</u> | <u>R²</u> | <u>R³</u> | <u>R⁴</u> | <u>R⁵</u> |
|--|----------------------|-------------------------------|----------------------|----------------------|
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | CH ₃ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | CH ₃ |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | CH ₃ | CH ₃ | CH ₃ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | CH ₃ | CH ₃ | CH ₃ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | CH ₃ |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | C ₂ H ₅ | CH ₃ | CH ₃ |
| CH ₂ CH ₂ CH ₂ CH(CH ₃) ₂ | CH ₃ | C ₂ H ₅ | CH ₃ | CH ₃ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₂ (C ₂ H ₅) | CH ₃ | C ₂ H ₅ | CH ₃ | CH ₃ |
| CH ₂ CH ₂ CH ₂ Si(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | Cl |
| CH ₂ CH ₂ CH ₂ C(CH ₃) ₃ | CH ₃ | CH ₃ | CH ₃ | Cl |

| R^6 | R^2 | R^3 | R^4 | R^5 |
|----------------------------------|----------|------------------|--------|-------|
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | CH_3 | CH_3 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | CH_3 | CH_3 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | C_2H_5 | CH_3 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | C_2H_5 | CH_3 | Cl |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | C_2H_5 | CH_3 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | C_2H_5 | CH_3 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_3$ | C_2H_5 | C_2H_5 | CH_3 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | C_2H_5 | C_2H_5 | CH_3 | Cl |
| $CH_2CH_2CH_2CH(CH_3)_2$ | C_2H_5 | C_2H_5 | CH_3 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | C_2H_5 | C_2H_5 | CH_3 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | Cl |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2CH=CH_2$ | CH_3 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | Cl |
| $CH_2CH_2CH_2CH(CH_3)_2$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_2(C_2H_5)$ | CH_3 | $CH_2C\equiv CH$ | CH_3 | Cl |
| $CH_2CH_2CH_2Si(CH_3)_3$ | CH_3 | CH_2CH_2F | CH_3 | Cl |
| $CH_2CH_2CH_2C(CH_3)_3$ | CH_3 | CH_2CH_2F | CH_3 | Cl |

Formulation/Utility

- Compounds of this invention will generally be used as a formulation or composition with an agriculturally suitable carrier comprising at least one of a liquid diluent, a solid diluent or a surfactant. Accordingly, compositions are provided which comprise, in addition to a fungicidally effective amount of the active compound(s), at least one additional component selected from the group consisting surfactants, solid diluents and liquid diluents. The formulation or composition ingredients are selected to be consistent with the physical properties of the active ingredient, mode of application and environmental factors such as soil type, moisture and temperature. Useful formulations include liquids such as solutions (including emulsifiable concentrates), suspensions, emulsions (including microemulsions and/or suspoemulsions) and the like which optionally can be thickened into gels. Useful formulations further include solids such as dusts, powders, granules, pellets, tablets, films, and the like which can be water-dispersible ("wettable") or water-soluble. Active ingredient can be (micro)encapsulated and further formed into a suspension or solid formulation; alternatively the entire formulation of active ingredient can be encapsulated (or "overcoated"). Encapsulation can control or delay release of the active ingredient.

Sprayable formulations can be extended in suitable media and used at spray volumes from about one to several hundred liters per hectare. High-strength compositions are primarily used as intermediates for further formulation.

The formulations will typically contain effective amounts of active ingredient, diluent and/or surfactant within the following approximate ranges which add up to 100 percent by weight.

| | Weight Percent | | |
|---|------------------------------|----------------|-------------------|
| | <u>Active Ingredient</u> | <u>Diluent</u> | <u>Surfactant</u> |
| Water-Dispersible and Water-soluble Granules, Tablets and Powders. | 5-90 | 0-94 | 1-15 |
| Suspensions, Emulsions, Solutions (including Emulsifiable Concentrates) | 5-50 | 40-95 | 0-15 |
| Dusts | 1-25 | 70-99 | 0-5 |
| Granules and Pellets | 0.01-99 | 5-99.99 | 0-15 |
| High Strength Compositions | 90-99 | 0-10 | 0-2 |

Typical solid diluents are described in Watkins, et al., *Handbook of Insecticide Dust Diluents and Carriers*, 2nd Ed., Dorland Books, Caldwell, New Jersey. Typical liquid diluents are described in Marsden, *Solvents Guide*, 2nd Ed., Interscience, New York, 1950. *McCutcheon's Detergents and Emulsifiers Annual*, Allured Publ. Corp., Ridgewood, New Jersey, as well as Sisely and Wood, *Encyclopedia of Surface Active Agents*, Chemical Publ. Co., Inc., New York, 1964, list surfactants and recommended uses. All formulations can contain minor amounts of additives to reduce foam, caking, corrosion, microbiological growth and the like, or thickeners to increase viscosity.

Surfactants include, for example, polyethoxylated alcohols, polyethoxylated alkylphenols, polyethoxylated sorbitan fatty acid esters, dialkyl sulfosuccinates, alkyl sulfates, alkylbenzene sulfonates, organosilicones, *N,N*-dialkyltaurates, lignin sulfonates, naphthalene sulfonate formaldehyde condensates, polycarboxylates, and polyoxyethylene/polyoxypropylene block copolymers. Solid diluents include, for example, clays such as bentonite, montmorillonite, attapulgite and kaolin, starch, sugar, silica, talc, diatomaceous earth, urea, calcium carbonate, sodium carbonate and bicarbonate, and sodium sulfate. Liquid diluents include, for example, water, *N,N*-dimethylformamide, dimethyl sulfoxide, *N*-alkylpyrrolidone, ethylene glycol, polypropylene glycol, paraffins, alkylbenzenes, alkyl naphthalenes, oils of olive, castor, linseed, tung, sesame, corn, peanut, cotton-seed, soybean, rape-seed and coconut, fatty acid esters, ketones such as cyclohexanone, 2-heptanone, isophorone and 4-hydroxy-4-methyl-2-pentanone, and alcohols such as methanol, cyclohexanol, decanol and tetrahydrofurfuryl alcohol.

Solutions, including emulsifiable concentrates, can be prepared by simply mixing the ingredients. Dusts and powders can be prepared by blending and, usually, grinding as in a hammer mill or fluid-energy mill. Suspensions are usually prepared by wet-milling; see, for example, U.S. 3,060,084. Granules and pellets can be prepared by spraying the active material upon preformed granular carriers or by agglomeration techniques. See Browning, "Agglomeration", *Chemical Engineering*, December 4, 1967, pp 147-48, *Perry's Chemical Engineer's Handbook*, 4th Ed., McGraw-Hill, New York, 1963, pages 8-57 and following, and WO 91/13546. Pellets can be prepared as described in U.S. 4,172,714. Water-dispersible and water-soluble granules can be prepared as taught in U.S. 4,144,050, U.S. 3,920,442 and DE 3,246,493. Tablets can be prepared as taught in U.S. 5,180,587, U.S. 5,232,701 and U.S. 5,208,030. Films can be prepared as taught in GB 2,095,558 and U.S. 3,299,566.

For further information regarding the art of formulation, see T. S. Woods, "The Formulator's Toolbox – Product Forms for Modern Agriculture" in *Pesticide Chemistry and Bioscience, The Food–Environment Challenge*, T. Brooks and T. R. Roberts, Eds., Proceedings of the 9th International Congress on Pesticide Chemistry, The Royal Society of Chemistry, Cambridge, 1999, pp. 120–133. See also U.S. 3,235,361, Col. 6, line 16 through Col. 7, line 19 and Examples 10–41; U.S. 3,309,192, Col. 5, line 43 through Col. 7, line 62 and Examples 8, 12, 15, 39, 41, 52, 53, 58, 132, 138–140, 162–164, 166, 167 and 169–182; U.S. 2,891,855, Col. 3, line 66 through Col. 5, line 17 and Examples 1–4; Klingman, *Weed Control as a Science*, John Wiley and Sons, Inc., New York, 1961, pp 81–96; and Hance et al., *Weed Control Handbook*, 8th Ed., Blackwell Scientific Publications, Oxford, 1989.

In the following Examples, all percentages are by weight and all formulations are prepared in conventional ways. Compound numbers refer to compounds in Index Table A.

Example A

Wettable Powder

| | |
|---|--------|
| Compound 13 | 65.0% |
| dodecylphenol polyethylene glycol ether | 2.0% |
| sodium ligninsulfonate | 4.0% |
| sodium silicoaluminate | 6.0% |
| montmorillonite (calcined) | 23.0%. |

Example B

Granule

| | |
|---|--------|
| Compound 13 | 10.0% |
| attapulgit granules (low volatile matter, 0.71/0.30 mm; U.S.S. No. 25–50 sieves) | 90.0%. |

Example CExtruded Pellet

| | | |
|---|-----------------------------------|--------|
| | Compound 13 | 25.0% |
| | anhydrous sodium sulfate | 10.0% |
| 5 | crude calcium ligninsulfonate | 5.0% |
| | sodium alkyl naphthalenesulfonate | 1.0% |
| | calcium/magnesium bentonite | 59.0%. |

Example DEmulsifiable Concentrate

| | | |
|----|---|--------|
| 10 | Compound 13 | 20.0% |
| | blend of oil soluble sulfonates and polyoxyethylene ethers | 10.0% |
| | isophorone | 70.0%. |

The compounds of this invention are useful as plant disease control agents. The present invention therefore further comprises a method for controlling plant diseases caused by fungal plant pathogens comprising applying to the plant or portion thereof to be protected, or to the plant seed or seedling to be protected, an effective amount of a compound of the invention or a fungicidal composition containing said compound. The compounds and compositions of this invention provide control of diseases caused by a broad spectrum of fungal plant pathogens in the Basidiomycete, Ascomycete, Oomycete and Deuteromycete classes. They are effective in controlling a broad spectrum of plant diseases, particularly foliar pathogens of ornamental, vegetable, field, cereal, and fruit crops. These pathogens include *Plasmopara viticola*, *Phytophthora infestans*, *Peronospora tabacina*, *Pseudoperonospora cubensis*, *Pythium aphanidermatum*, *Alternaria brassicae*, *Septoria nodorum*, *Septoria tritici*, *Cercosporidium personatum*, *Cercospora arachidicola*, *Pseudocercospora herpotrichoides*, *Cercospora beticola*, *Botrytis cinerea*, *Monilinia fructicola*, *Pyricularia oryzae*, *Podosphaera leucotricha*, *Venturia inaequalis*, *Erysiphe graminis*, *Uncinula necator*, *Puccinia recondita*, *Puccinia graminis*, *Hemileia vastatrix*, *Puccinia striiformis*, *Puccinia arachidis*, *Rhizoctonia solani*, *Sphaerotheca fuliginea*, *Fusarium oxysporum*, *Verticillium dahliae*, *Pythium aphanidermatum*, *Phytophthora megasperma*, *Sclerotinia sclerotiorum*, *Sclerotium rolfsii*, *Erysiphe polygoni*, *Pyrenophora teres*, *Gaeumannomyces graminis*, *Rhynchosporium secalis*, *Fusarium roseum*, *Bremia lactucae* and other genera and species closely related to these pathogens.

Compounds of this invention can also be mixed with one or more other insecticides, fungicides, nematocides, bactericides, acaricides, growth regulators, chemosterilants, semiochemicals, repellents, attractants, pheromones, feeding stimulants or other biologically active compounds to form a multi-component pesticide giving an even broader spectrum of agricultural protection. Examples of such agricultural protectants with which compounds of

this invention can be formulated are: insecticides such as abamectin, acephate, azinphos-methyl, bifenthrin, buprofezin, carbofuran, chlorfenapyr, chlorpyrifos, chlorpyrifos-methyl, cyfluthrin, beta-cyfluthrin, cyhalothrin, lambda-cyhalothrin, deltamethrin, diafenthiuron, diazinon, diflubenzuron, dimethoate, esfenvalerate, fenoxycarb, fenpropathrin, fenvalerate, fipronil, flucythrinate, tau-fluvalinate, fonophos, imidacloprid, indoxacarb, isofenphos, malathion, metaldehyde, methamidophos, methidathion, methomyl, methoprene, methoxychlor, monocrotophos, oxamyl, parathion, parathion-methyl, permethrin, phorate, phosalone, phosmet, phosphamidon, pirimicarb, profenofos, rotenone, sulprofos, tebufenozide, tefluthrin, terbufos, tetrachlorvinphos, thiodicarb, tralomethrin, trichlorfon and triflumuron; fungicides such as acibenzolar, azoxystrobin, binomial, blasticidin-S, Bordeaux mixture (Tribasic copper sulfate), boscalid/nicobifen, bromuconazole, buthiobate, carpropamid (KTU 3616), captafol, captan, carbendazim, chloroneb, chlorothalonil, clotrimazole, copper oxychloride, copper salts, cymoxanil, cyproconazole, cyprodinil (CGA 219417), (S)-3,5-dichloro-N-(3-chloro-1-ethyl-1-methyl-2-oxopropyl)-4-methylbenzamide (RH 7281), diclocymet (S-2900), diclomezine, dicloran, difenoconazole, (S)-3,5-dihydro-5-methyl-2-(methylthio)-5-phenyl-3-(phenylamino)-4H-imidazol-4-one (RP 407213), dimethomorph, dimoxystrobin (SSF-126), diniconazole, diniconazole-M, dodine, econazole, edifenphos, epoxiconazole (BAS 480F), famoxadone, fenarimol, fenbuconazole, fencaramid (SZX0722), fenpiclonil, fenpropidin, fenpropimorph, fentin acetate, fentin hydroxide, fluazinam, fludioxonil, flumetover (RPA 403397), fluquinconazole, flusilazole, flutolanil, flutriafol, folpet, fosetyl-aluminum, furalaxyl, furametapyr (S-82658), hexaconazole, imazalil, 6-iodo-3-propyl-2-propyloxy-4(3H)-quinazolinone, ipconazole, iprobenfos, iprodione, isoconazole, isoprothiolane, kasugamycin, kresoxim-methyl, mancozeb, maneb, mefenoxam, mepronil, metalaxyl, metconazole, metominostrobin/fenominostrobin (SSF-126), miconazole, myclobutanil, neo-asozin (ferric methanearsonate), nuarimol, oxadixyl, penconazole, pencycuron, picoxystrobin, probenazole, prochloraz, propamocarb, propiconazole, pyraclostrobin, pyrifenox, pyrimethanil, prochloraz, pyrifenox, pyroquilon, quinoxifen, spiroxamine, sulfur, tebuconazole, tetraconazole, thiabendazole, thifluzamide, thiophanate-methyl, thiram, triadimefon, triadimenol, triarimol, tricyclazole, trifloxystrobin, triforine, triticonazole, uniconazole, validamycin and vinclozolin; nematocides such as aldoxycarb and fenamiphos; bactericides such as streptomycin; acaricides such as amitraz, chinomethionat, chlorobenzilate, cyhexatin, dicofol, dienochlor, etoxazole, fenazaquin, fenbutatin oxide, fenpropathrin, fenpyroximate, hexythiazox, propargite, pyridaben and tebufenpyrad; and biological agents such as *Bacillus thuringiensis*, *Bacillus thuringiensis* delta endotoxin, baculovirus, and entomopathogenic bacteria, virus and fungi. The weight ratios of these various mixing partners to compounds of this invention typically are between

100:1 and 1:100, preferably between 30:1 and 1:30, more preferably between 10:1 and 1:10, and most preferably between 4:1 and 1:4.

Compounds such as Compound 1 of this invention are considered to inhibit C24 transmethylese in the ergosterol biosynthesis pathway. In certain instances, combinations
5 with other fungicides having a similar spectrum of control but a different mode of action will be particularly advantageous for resistance management (especially if the other fungicide also has a similar spectrum of control). Examples of other fungicides having different mode of actions include compounds acting at the *bc*₁ complex of the fungal mitochondrial
10 respiratory electron transfer site, compounds acting at the demethylase enzyme of the sterol biosynthesis pathway, morpholine and piperidine compounds that act on the sterol biosynthesis pathway and pyrimidinone fungicides.

The *bc*₁ Complex Fungicides

Strobilurin fungicides such as azoxystrobin, kresoxim-methyl, metominostrobin/fenominostrobin (SSF-126), picoxystrobin, pyraclostrobin and
15 trifloxystrobin are known to have a fungicidal mode of action which inhibits the *bc*₁ complex in the mitochondrial respiration chain (*Angew. Chem. Int. Ed.*, **1999**, 38, 1328-1349). Methyl (*E*)-2-[[6-(2-cyanophenoxy)-4-pyrimidinyl]oxy]- α -(methoxyimino)benzeneacetate (also known as azoxystrobin) is described as a *bc*₁ complex inhibitor in *Biochemical Society Transactions* **1993**, 22, 68S. Methyl (*E*)- α -
20 (methoxyimino)-2-[(2-methylphenoxy)methyl]benzeneacetate (also known as kresoxim-methyl) is described as a *bc*₁ complex inhibitor in *Biochemical Society Transactions* **1993**, 22, 64S. (*E*)-2-[(2,5-Dimethylphenoxy)methyl]- α -(methoxyimino)-*N*-methylbenzeneacetamide is described as a *bc*₁ complex inhibitor in *Biochemistry and Cell Biology* **1995**, 85(3), 306-311. Other compounds that inhibit the *bc*₁ complex in the
25 mitochondrial respiration chain include famoxadone and fenamidone.

The *bc*₁ complex is sometimes referred to by other names in the biochemical literature, including complex III of the electron transfer chain, and ubihydroquinone:cytochrome c oxidoreductase. It is uniquely identified by the Enzyme Commission number EC1.10.2.2. The *bc*₁ complex is described in, for example, *J. Biol. Chem.* **1989**, 264, 14543-38; *Methods Enzymol.* **1986**, 126, 253-71; and references cited therein.

The Sterol Biosynthesis Inhibitor Fungicides

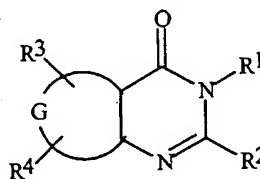
The class of sterol biosynthesis inhibitors includes DMI and non-DMI compounds, that control fungi by inhibiting enzymes in the sterol biosynthesis pathway. DMI fungicides have a common site of action within the fungal sterol biosynthesis pathway; that is, an
35 inhibition of demethylation at position 14 of lanosterol or 24-methylene dihydrolanosterol, which are precursors to sterols in fungi. Compounds acting at this site are often referred to as demethylase inhibitors, DMI fungicides, or DMIs. The demethylase enzyme is sometimes referred to by other names in the biochemical literature, including cytochrome P-450

(14DM). The demethylase enzyme is described in, for example, *J. Biol. Chem.* **1992**, 267, 13175-79 and references cited therein. DMI fungicides fall into several classes: azoles (including triazoles and imidazoles), pyrimidines, piperazines and pyridines. The triazoles includes bromuconazole, cyproconazole, difenoconazole, diniconazole, epoxiconazole, fenbuconazole, fluquinconazole, flusilazole, flutriafol, hexaconazole, ipconazole, metconazole, penconazole, propiconazole, tebuconazole, tetraconazole, triadimefon, triadimenol, triticonazole and uniconazole. The imidazoles include clotrimazole, econazole, imazalil, isoconazole, miconazole and prochloraz. The pyrimidines include fenarimol, nuarimol and triarimol. The piperazines include triforine. The pyridines include buthiobate and pyrifenoxy. Biochemical investigations have shown that all of the above mentioned fungicides are DMI fungicides as described by K. H. Kuck, et al. in *Modern Selective Fungicides - Properties, Applications and Mechanisms of Action*, Lyr, H., Ed.; Gustav Fischer Verlag: New York, **1995**, 205-258.

The DMI fungicides have been grouped together to distinguish them from other sterol biosynthesis inhibitors, such as the morpholine and piperidine fungicides. The morpholines and piperidines are also sterol biosynthesis inhibitors but have been shown to inhibit other steps in the sterol biosynthesis pathway. The morpholines include aldimorph, dodemorph, fenpropimorph, tridemorph and trimorphamide. The piperidines include fenpropidin. Biochemical investigations have shown that all of the above mentioned morpholine and piperidine fungicides are sterol biosynthesis inhibitor fungicides as described by K. H. Kuck, et al. in *Modern Selective Fungicides - Properties, Applications and Mechanisms of Action*, Lyr, H., Ed.; Gustav Fischer Verlag: New York, **1995**, 185-204.

Pyrimidinone Fungicides

Pyrimidinone fungicides include compounds of Formula II



wherein

G is a fused phenyl, thiophene or pyridine ring;

R¹ is C₁-C₆ alkyl;

R² is C₁-C₆ alkyl or C₁-C₆ alkoxy;

R³ is halogen; and

R⁴ is hydrogen or halogen.

Pyrimidinone fungicides are described in International Patent Application WO94/26722, U.S. Patent No. 6,066,638, U.S. Patent No. 6,245,770, U.S. Patent No. 6,262,058 and U.S. Patent No. 6,277,858.

Of note are pyrimidinone fungicides selected from the group:

- 5 6-bromo-3-propyl-2-propyloxy-4(3*H*)-quinazolinone,
6,8-diiodo-3-propyl-2-propyloxy-4(3*H*)-quinazolinone,
6-iodo-3-propyl-2-propyloxy-4(3*H*)-quinazolinone,
6-chloro-2-propoxy-3-propylthieno[2,3-*d*]pyrimidin-4(3*H*)-one,
6-bromo-2-propoxy-3-propylthieno[2,3-*d*]pyrimidin-4(3*H*)-one,
10 7-bromo-2-propoxy-3-propylthieno[3,2-*d*]pyrimidin-4(3*H*)-one,
6-bromo-2-propoxy-3-propylpyrido[2,3-*d*]pyrimidin-4(3*H*)-one,
6,7-dibromo-2-propoxy-3-propylthieno[3,2-*d*]pyrimidin-4(3*H*)-one, and
3-(cyclopropylmethyl)-6-iodo-2-(propylthio)pyrido[2,3-*d*]pyrimidin-4(3*H*)-one.

- Of note are combinations of compounds of Formula I (e.g. Compound 13) with
15 azoxystrobin, kesoxim-methyl, trifloxystrobin, pyraclostrobin, picoxystrobin, dimoxystrobin
(SSF-129), metominostrobin/ fenominostrobin (SSF-126), carbendazim, chlorothalonil,
quinoxifen, metrafenone, cyflufenamid, fenpropidine, fenpropimorph, bromuconazole,
cyproconazole, difenoconazole, epoxiconazole, fenbuconazole, flusilazole, hexaconazole,
ipconazole, metconazole, penconazole, propiconazole, proquinazid, tebuconazole,
20 triticonazole, prochloraz, boscalid/nicobifen.

- Preferred for better control of plant diseases caused by fungal plant pathogens (e.g.,
lower use rate or broader spectrum of plant pathogens controlled) or resistance management
are mixtures of a compound of this invention with a fungicide selected from the group:
azoxystrobin, kesoxim-methyl, trifloxystrobin, pyraclostrobin, picoxystrobin, dimoxystrobin
25 (SSF-129), metominostrobin/ fenominostrobin (SSF-126), quinoxifen, metrafenone,
cyflufenamid, fenpropidine, fenpropimorph, cyproconazole, epoxiconazole, flusilazole,
metconazole, propiconazole, proquinazid, tebuconazole, triticonazole.

- Specifically preferred mixtures (compound numbers refer to compounds in Index
Tables A) are selected from the group: combinations of Compound 11, Compounds 13,
30 Compound 17 or Compound 27 with azoxystrobin, combinations of Compound 11,
Compound 13, Compound 17 or Compound 27 with kesoxim-methyl, combinations of
Compound 11, Compound 13, Compound 17 or Compound 27 with trifloxystrobin,
combinations of Compound 11, Compound 13, Compound 17 or Compound 27 with
pyraclostrobin, combinations of Compound 11, Compound 13, Compound 17 or Compound
35 27 with picoxystrobin, combinations of Compound 11, Compound 13, Compound 17 or
Compound 27 with dimoxystrobin (SSF-129), combinations of Compound 11, Compound
13, Compound 17 or Compound 27 with metominostrobin/ fenominostrobin (SSF-126),
combinations of Compound 11, Compound 13, Compound 17 or Compound 27 with

quinoxifen, combinations of Compound 11, Compound 13, Compound 17 or Compound 27 with metrafenone, combinations of Compound 11, Compound 13, Compound 17 or Compound 27 with cyflufenamid, combinations of Compound 11, Compound 13, Compound 17 or Compound 27 with fenpropidine, combinations of Compound 11, Compound 13, Compound 17 or Compound 27 with fenpropimorph, combinations of Compound 11, Compound 13, Compound 17 or Compound 27 with cyproconazole, combinations of Compound 11, Compound 13, Compound 17 or Compound 27 with epoxiconazole, combinations of Compound 11, Compound 13, Compound 17 or Compound 27 with flusilazole, combinations of Compound 11, Compound 13, Compound 17 or Compound 27 with metconazole, combinations of Compound 11, Compound 13, Compound 17 or Compound 27 with propiconazole, combinations of Compound 11, Compound 13, Compound 17 or Compound 27 with proquinazid, combinations of Compound 11, Compound 13, Compound 17 or Compound 27 with tebuconazole, combinations of Compound 11, Compound 13, Compound 17 or Compound 27 with triticonazole.

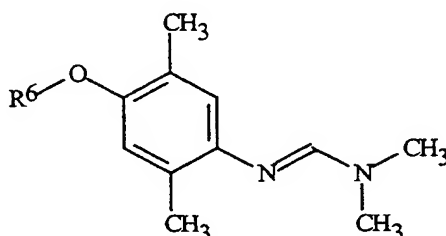
Also specifically preferred mixtures (compound numbers refer to compounds in Index Tables B) are selected from the group: combinations of Compound 54 with azoxystrobin, combinations of Compound 54 with kesoxim-methyl, combinations of Compound 54 with trifloxystrobin, combinations of Compound 54 with pyraclostrobin, combinations of Compound 54 with picoxystrobin, combinations of Compound 54 with dimoxystrobin (SSF-129), combinations of Compound 54 with metominostrobin/ fenominostrobin (SSF-126), combinations of Compound 54 with quinoxifen, combinations of Compound 54 with metrafenone, combinations of Compound 54 with cyflufenamid, combinations of Compound 54 with fenpropidine, combinations of Compound 54 with fenpropimorph, combinations of Compound 54 with cyproconazole, combinations of Compound 54 with epoxiconazole, combinations of Compound 54 with flusilazole, combinations of Compound 54 with metconazole, combinations of Compound 54 with propiconazole, combinations of Compound 54 with proquinazid, combinations of Compound 54 with tebuconazole, combinations of Compound 54 with triticonazole.

Plant disease control is ordinarily accomplished by applying an effective amount of a compound of this invention either pre- or post-infection, to the portion of the plant to be protected such as the roots, stems, foliage, fruit, seeds, tubers or bulbs, or to the media (soil or sand) in which the plants to be protected are growing. The compounds can also be applied to the seed to protect the seed and seedling.

Rates of application for these compounds can be influenced by many factors of the environment and should be determined under actual use conditions. Foliage can normally be protected when treated at a rate of from less than 1 g/ha to 5,000 g/ha of active ingredient. Seed and seedlings can normally be protected when seed is treated at a rate of from 0.1 to 10 g per kilogram of seed.

The following TESTS demonstrate the control efficacy of compounds of this invention on specific pathogens. The pathogen control protection afforded by the compounds is not limited, however, to these species. See Index Tables A-E for compound descriptions. The following abbreviations are used in the Index Tables which follow: *t* means tertiary, *s* means secondary, *n* means normal, *i* means iso, *c* means cyclo, Pr means propyl, *i*-Pr means isopropyl, *c*-Pr means cyclopropyl, Bu means butyl, CN means cyano, and "Ex." stands for "Example" and is followed by a number indicating in which example the compound is prepared.

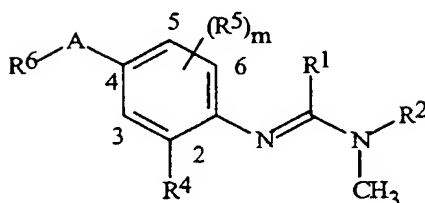
INDEX TABLE A



| Compound | R ⁶ | m.p. (°C.) |
|------------|--|------------|
| 1 (Ex. 1) | CH ₂ CH=C(CH ₃) ₂ | * |
| 2 | CH ₂ CH=C(CH ₃)(CH ₂) ₂ CH=C(CH ₃) ₂ | * |
| 3 | CH ₂ (CH=C(CH ₃)(CH ₂) ₂) ₂ CH=C(CH ₃) ₂ | * |
| 4 | CH ₂ C(=O)C(CH ₃) ₃ | * |
| 5 | (CH ₂) ₄ CH=CH ₂ | * |
| 6 | (CH ₂) ₃ CH=CH ₂ | * |
| 7 | (CH ₂) ₄ C(OCH ₃) ₃ | * |
| 8 | (CH ₂) ₂ CH(CH ₃) ₂ | * |
| 9 | (CH ₂) ₃ C(=CH ₂)CH(CH ₃) ₂ | * |
| 10 | (CH ₂) ₂ CH(CH ₃)(CH ₂) ₃ CH(CH ₃) ₂ | * |
| 11 | (CH ₂) ₂ CH(CH ₃)CH ₂ C(CH ₃) ₃ | * |
| 12 | (CH ₂) ₂ C(CH ₃) ₃ | * |
| 13 (Ex. 2) | (CH ₂) ₃ CH(CH ₃) ₂ | * |
| 14 | (<i>S</i>)-(CH ₂) ₂ CH(CH ₃)CH ₂ CH ₂ CH=C(CH ₃) ₂ | * |
| 15 | (<i>R</i>)-(CH ₂) ₂ CH(CH ₃)CH ₂ CH ₂ CH=C(CH ₃) ₂ | * |
| 16 | (CH ₂) ₃ CH ₂ Cl | * |
| 17 | (CH ₂) ₄ CH ₂ Cl | * |
| 18 | CH(CH ₃)(CH ₂) ₃ CH ₃ | * |
| 19 | (CH ₂) ₄ CH ₃ | * |
| 20 | (CH ₂) ₅ CH ₃ | * |

| Compound | R ⁶ | m.p. (°C.) |
|------------|---|------------|
| 21 | (CH ₂) ₆ CH ₃ | * |
| 22 | (CH ₂) ₇ CH ₃ | * |
| 23 | (CH ₂) ₈ CH ₃ | * |
| 24 | (CH ₂) ₉ CH ₃ | * |
| 25 | (CH ₂) ₁₁ CH ₃ | 53-54* |
| 26 (Ex. 3) | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 27 | (CH ₂) ₃ OSi(CH ₃) ₂ C(CH ₃) ₃ | * |
| 28 (Ex. 4) | CH(CH ₂ CH ₂ CH ₂ CH ₃) ₂ | * |
| 29 | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH ₂ CH ₃ | * |
| 30 | CH(CH ₂ CH ₂ CH ₂ CH ₂ CH ₃) ₂ | * |
| 31 | CH(C ₂ H ₅)CH ₂ CH ₂ CH(CH ₃) ₂ | * |
| 32 | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ | * |
| 33 | CH(CH ₂ CH ₂ CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ | * |
| 34 | CH(C ₂ H ₅) ₂ | * |
| 35 | CH(CH ₂ CH ₂ CH(CH ₃) ₂) ₂ | * |
| 36 | CH(CH ₂ CH ₂ CH ₃) ₂ | * |
| 37 | CH(CH ₂ CH ₂ CH ₂ CH ₃)(CH ₂) ₅ CH ₃ | * |
| 38 | CH ₂ C(=CH ₂)CH ₂ Si(CH ₃) ₃ | * |
| 39 | CH ₂ CH ₂ CH=CH(CH ₃) ₂ | * |
| 40 | CH ₂ CH=CHC(CH ₃) ₃ | * |
| 41 | CH ₂ CH ₂ OC(CH ₃) ₃ | * |
| 42 | (CH ₂) ₃ C(Cl) ₂ (CH ₃) ₂ | * |
| 43 | (CH ₂) ₃ C(CH ₃) ₂ (OCH ₃) | * |
| 44 | (CH ₂) ₃ C(CH ₃) ₂ (OC ₂ H ₅) | * |
| 45 | (CH ₂) ₃ C(CH ₃) ₂ OH | * |
| 46 | (CH ₂) ₃ C(Cl)(CH ₃)(CH(CH ₃) ₂) | * |
| 47 | (CH ₂) ₄ C(CH ₃) ₂ (CN) | * |
| 48 | (CH ₂) ₄ CH(CH ₃) ₂ | * |
| 49 | (CH ₂) ₃ CH(CH ₃)(CH(CH ₃) ₂) | * |
| 50 | (CH ₂) ₃ C(CH ₃) ₃ | * |
| 51 | (CH ₂) ₃ Si(CH ₃) ₂ (C ₂ H ₅) | * |
| 52 | (CH ₂) ₃ Si(CH ₃) ₂ (CH ₂ CH ₂ CH ₃) | * |
| 53 | (CH ₂) ₃ Si(CH ₃)(C ₂ H ₅) ₂ | * |

INDEX TABLE B



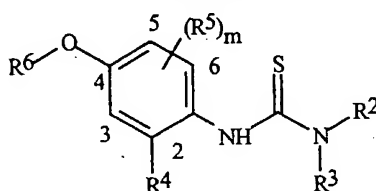
| Compound | m | A | R ¹ | R ² | R ⁴ | R ⁵ | R ⁶ | m.p. (°C.) |
|------------|---|---|-----------------|-------------------------------|-----------------|-------------------|--|---------------|
| 54 (Ex. 5) | 1 | O | H | C ₂ H ₅ | CH ₃ | 5-Cl | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 55 | 2 | O | H | CH ₃ | Cl | 3,5-di-Cl | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 56 | 1 | O | H | CH ₂ CH=CH 2 | CH ₃ | 5-Cl | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 57 | 1 | O | H | C ₂ H ₅ | CH ₃ | 5-Cl | (CH ₂) ₃ Si(CH ₃) ₂ (C ₂ H ₅) | * |
| 58 | 1 | O | H | <i>n</i> -Pr | CH ₃ | 5-Cl | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 59 | 1 | O | H | C ₂ H ₅ | CH ₃ | 5-F | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 60 | 1 | O | H | <i>n</i> -Pr | CH ₃ | 5-F | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 61 | 1 | O | H | <i>c</i> -Pr | CH ₃ | 5-Cl | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 62 | 1 | O | H | <i>n</i> -Bu | CH ₃ | 5-F | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 63 | 1 | O | H | <i>i</i> -Pr | CH ₃ | 5-F | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 64 | 1 | O | H | CH ₂ CH=CH 2 | CH ₃ | 5-F | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 65 | 1 | O | H | <i>c</i> -Pr | CH ₃ | 5-Cl | (CH ₂) ₃ Si(CH ₃) ₂ (C ₂ H ₅) | * |
| 66 | 1 | O | H | C ₂ H ₅ | CH ₃ | 5-F | (CH ₂) ₃ Si(CH ₃) ₂ (C ₂ H ₅) | * |
| 67 | 1 | O | H | <i>n</i> -Pr | CH ₃ | 5-F | (CH ₂) ₃ Si(CH ₃) ₂ (C ₂ H ₅) | * |
| 68 | 1 | O | H | <i>n</i> -Bu | CH ₃ | 5-F | (CH ₂) ₃ Si(CH ₃) ₂ (C ₂ H ₅) | * |
| 69 | 1 | O | H | <i>i</i> -Pr | CH ₃ | 5-F | (CH ₂) ₃ Si(CH ₃) ₂ (C ₂ H ₅) | * |
| 70 | 1 | O | H | CH ₂ CH=CH 2 | CH ₃ | 5-F | (CH ₂) ₃ Si(CH ₃) ₂ (C ₂ H ₅) | * |
| 71 | 1 | O | H | <i>c</i> -Pr | CH ₃ | 5-F | (CH ₂) ₃ Si(CH ₃) ₂ (C ₂ H ₅) | * |
| 72 | 1 | O | H | <i>c</i> -Pr | CH ₃ | 5-F | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 73 | 1 | O | H | <i>n</i> -Bu | CH ₃ | 5- <i>i</i> -Pr | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 74 | 1 | O | H | <i>i</i> -Pr | CH ₃ | 5- <i>i</i> -Pr | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 75 | 1 | O | H | <i>n</i> -Pr | CH ₃ | 5- <i>i</i> -Pr | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 76 | 1 | O | H | C ₂ H ₅ | CH ₃ | 5- <i>i</i> -Pr | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 96 | 1 | O | CH ₃ | CH ₃ | CH ₃ | 5-CH ₃ | (CH ₂) ₃ CH(CH ₃) ₂ | * |
| 97 | 1 | O | CH ₃ | CH ₃ | CH ₃ | 5-CH ₃ | CH(<i>n</i> -Pr)(CH ₂) ₂ CH(CH ₃) ₂ | * |

| Compound | m | A | R ¹ | R ² | R ⁴ | R ⁵ | R ⁶ | m.p. (°C.) |
|----------|---|--------|-------------------------------------|-------------------------------|-----------------|----------------------------|---|---------------|
| 98 | 1 | O | CH ₃ | CH ₃ | CH ₃ | 5-CH ₃ | (CH ₂) ₂ CH(CH ₃)CH ₂ C(CH ₃) ₃ | * |
| 99 | 1 | O | CH ₃ | CH ₃ | CH ₃ | 5-CH ₃ | CH((CH ₂) ₄ CH ₃) ₂ | * |
| 100 | 1 | O | CH ₃ | CH ₃ | CH ₃ | 5-CH ₃ | CH(C ₂ H ₅)CH ₂ CH ₂ CH(CH ₃) ₂ | * |
| 101 | 1 | O | CH ₃ | CH ₃ | CH ₃ | 5-CH ₃ | CH(<i>n</i> -Pr) ₂ | * |
| 102 | 1 | O | CH ₃ | CH ₃ | CH ₃ | 5-CH ₃ | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ | * |
| 103 | 1 | O | CH ₃ | CH ₃ | CH ₃ | 5-CH ₃ | CH(CH ₂ CH ₂ CH(CH ₃) ₂) ₂ | * |
| 104 | 1 | O | CH ₃ | CH ₃ | CH ₃ | 5-CH ₃ | CH(C ₂ H ₅)CH ₂ CH ₂ C(=CH ₂)C H ₃ | * |
| 105 | 1 | S | H | CH ₃ | CH ₃ | 5-CH ₃ | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ | * |
| 110 | 1 | O | CH ₃ | CH ₃ | CH ₃ | 5-Cl | (CH ₂) ₃ CH(CH ₃) ₂ | * |
| 111 | 1 | O | CH ₃ | CH ₃ | CH ₃ | 5-Cl | (CH ₂) ₃ CH(CH ₃) ₂ | * |
| 115 | 2 | O | H | CH ₃ | CH ₃ | 3,5-di-Cl | (CH ₂) ₃ CH(CH ₃) ₂ | * |
| 116 | 2 | O | CH ₃ | CH ₃ | CH ₃ | 3,5-di-Cl | (CH ₂) ₃ CH(CH ₃) ₂ | * |
| 126 | 1 | O | H | CH ₃ | Cl | 5-Cl | (CH ₂) ₃ CH(CH ₃) ₂ | * |
| 128 | 1 | O | CO ₂ C H ₃ | CH ₃ | CH ₃ | 5-CH ₃ | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 129 | 1 | O | CO ₂ C H ₃ | C ₂ H ₅ | CH ₃ | 5-Cl | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 130 | 1 | O | CO ₂ C H ₃ | CH ₃ | CH ₃ | 5-Cl | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 131 | 1 | O | CO ₂ C H ₃ | C ₂ H ₅ | CH ₃ | 5-CH ₃ | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 132 | 1 | O | H | CH ₃ | CH ₃ | 5-CH ₃ | (CH ₂) ₃ CH(CH ₃) ₂ | * |
| 140 | 2 | O | H | C ₂ H ₅ | CH ₃ | 3-Cl-5- CH ₃ | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 141 | 1 | S | H | CH ₃ | CH ₃ | 5-CH ₃ | CH(<i>n</i> -Pr)(<i>n</i> -Bu) | * |
| 142 | 1 | S | CH ₃ | CH ₃ | CH ₃ | 5-CH ₃ | CH(<i>n</i> -Pr)(<i>n</i> -Bu) | * |
| 143 | 1 | S | CH ₃ | CH ₃ | CH ₃ | 5-CH ₃ | CH(<i>n</i> -Bu) ₂ | * |
| 144 | 1 | N H | CH ₃ | CH ₃ | CH ₃ | 5-CH ₃ | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ | * |
| 145 | 1 | N H | H | CH ₃ | CH ₃ | 5-CH ₃ | CH((CH ₂) ₄ CH ₃) ₂ | * |
| 146 | 1 | N H | H | CH ₃ | CH ₃ | 5-CH ₃ | CH(<i>n</i> -Pr)(<i>n</i> -Bu) | * |
| 147 | 1 | N | H | CH ₃ | CH ₃ | 5-CH ₃ | (CH ₂) ₂ CH(CH ₃)CH ₂ C(CH ₃) ₃ | * |

| <u>Compound</u> | <u>m</u> | <u>A</u> | <u>R¹</u> | <u>R²</u> | <u>R⁴</u> | <u>R⁵</u> | <u>R⁶</u> | <u>m.p.</u> (°C.) |
|-----------------|----------|----------|----------------------|-------------------------------|----------------------|----------------------|---|----------------------|
| | | H | | | | | | |
| 148 | 1 | N H | H | CH ₃ | CH ₃ | 5-CH ₃ | CH(<i>n</i> -Pr)(CH ₂) ₂ CH(CH ₃) ₂ | * |
| 149 | 1 | N H | H | CH ₃ | CH ₃ | 5-CH ₃ | CH(C ₂ H ₅)(CH) ₂ CH(CH ₃) ₂ | * |
| 150 | 1 | N H | H | CH ₃ | CH ₃ | 5-CH ₃ | CH(<i>n</i> -Bu) ₂ | * |
| 151 | 1 | N H | H | CH ₃ | CH ₃ | 5-CH ₃ | CH(CH ₂ CH ₂ CH(CH ₃) ₂) ₂ | * |
| 152 | 1 | N H | H | CH ₃ | CH ₃ | 5-CH ₃ | CH(C ₂ H ₅)CH ₂ CH ₂ C(=CH ₂)C H ₃ | * |
| 153 | 1 | N H | H | CH ₃ | CH ₃ | 5-CH ₃ | CH ₂ CH ₂ S(<i>t</i> -Bu) | * |
| 154 | 1 | N H | H | CH ₃ | CH ₃ | 5-CH ₃ | (CH ₂) ₃ CH(CH ₃) ₂ | * |
| 155 | 1 | S | H | CH ₃ | CH ₃ | 5-CH ₃ | CH(<i>n</i> -Bu) ₂ | * |
| 156 | 1 | S | H | CH ₃ | CH ₃ | 5-CH ₃ | (CH ₂) ₃ CH(CH ₃) ₂ | * |
| 157 | 1 | S | H | CH ₃ | CH ₃ | 5-CH ₃ | CH(<i>n</i> -Pr) ₂ | * |
| 158 | 1 | S | H | CH ₃ | CH ₃ | 5-CH ₃ | CH ₂ CH(CH ₃)CH ₂ C(<i>t</i> -Bu) | * |
| 159 | 1 | S | H | CH ₃ | CH ₃ | 5-CH ₃ | CH(CH ₂ CH ₂ CH(CH ₃) ₂) ₂ | * |
| 160 | 1 | S | H | CH ₃ | CH ₃ | 5-CH ₃ | (CH(<i>n</i> -Pr)(<i>n</i> -Bu)) | * |
| 161 | 1 | S | H | CH ₃ | CH ₃ | 5-CH ₃ | CH(C ₂ H ₅)CH ₂ C(=CH ₂)CH ₃ | * |
| 162 | 1 | S | H | CH ₃ | CH ₃ | 5-CH ₃ | CH ₂ (C ₂ H ₅)CH ₂ CH ₂ CH(CH ₃) ₂ | * |
| 171 | 2 | O | CH ₃ | CH ₃ | CH ₃ | 3,5-di-Cl | (CH ₂) ₃ Si(CH ₃) ₃ | 160- 162 |
| 172 | 1 | O | H | CH ₃ | CH ₃ | 5-Cl | (CH ₂) ₃ Si(CH ₃) ₃ | 55-58 |
| 173 | 1 | O | CH ₃ | CH ₃ | CH ₃ | 5-Cl | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 174 | 1 | N H | H | CH ₃ | CH ₃ | 5-CH ₃ | C(O)CH ₂ S(O)(<i>t</i> -Bu) | * |
| 175 | 1 | O | H | CH ₃ | CH ₃ | 5-Cl | (CH ₂) ₃ C(CH ₃) ₃ | * |
| 176 | 1 | O | H | CH ₃ | CH ₃ | 5-Cl | (CH ₂) ₃ C(CH ₃) ₃ | * |
| 182 | 2 | O | H | C ₂ H ₅ | CH ₃ | 3,5-di-Cl | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 189 | 1 | N H | H | CH ₃ | CH ₃ | 5-CH ₃ | C(O)NHCH ₂ CH(CH ₃) ₂ | 147- 149 |
| 190 | 1 | N | H | CH ₃ | CH ₃ | 5-CH ₃ | C(O)NHCH ₂ C(CH ₃) ₃ | 180- |

| Compound | m | A | R ¹ | R ² | R ⁴ | R ⁵ | R ⁶ | m.p. (°C.) |
|----------|---|--------|----------------|-------------------------------|------------------|----------------------------|---|---------------|
| | | H | | | | | | 182 |
| 193 | 1 | N H | H | CH ₃ | CH ₃ | 5-CH ₃ | C(O)N(CH ₃)CH ₂ C(CH ₃) ₃ | 158- 160 |
| 196 | 1 | O | H | C ₂ H ₅ | CH ₃ | 5-CH ₃ | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 197 | 1 | O | H | C ₂ H ₅ | CH ₃ | 5-Cl | (CH ₂) ₃ CH(CH ₃) ₃ | * |
| 198 | 1 | O | H | C ₂ H ₅ | CH ₃ | 5-Cl | CH(CH ₃)CH ₂ CH ₂ CH(CH ₃) ₂ | * |
| 199 | 1 | O | H | C ₂ H ₅ | CH ₃ | 5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₃ | * |
| 200 | 2 | O | H | C ₂ H ₅ | CH ₃ | 3-Cl-5- CH ₃ | (CH ₂) ₃ CH(CH ₃) ₂ | * |
| 201 | 2 | O | H | C ₂ H ₅ | CH ₃ | 3-Cl-5- CH ₃ | (CH ₂) ₃ C(CH ₃) ₃ | * |
| 202 | 1 | O | H | C ₂ H ₅ | OCH ₃ | 5-Cl | (CH ₂) ₃ CH(CH ₃) ₃ | * |
| 203 | 1 | O | H | C ₂ H ₅ | SCH ₃ | 5-Cl | (CH ₂) ₃ CH(CH ₃) ₃ | * |
| 204 | 1 | O | H | <i>c</i> -Pr | SCH ₃ | 5-Cl | (CH ₂) ₃ CH(CH ₃) ₃ | 62-64 |
| 205 | 1 | O | H | <i>i</i> -Pr | SCH ₃ | 5-Cl | (CH ₂) ₃ CH(CH ₃) ₃ | * |
| 206 | 1 | O | H | <i>n</i> -Pr | SCH ₃ | 5-Cl | (CH ₂) ₃ CH(CH ₃) ₃ | * |
| 207 | 1 | O | H | CHC≡CH | CH ₃ | 5-Cl | (CH ₂) ₃ CH(CH ₃) ₃ | * |
| 208 | 2 | O | H | C ₂ H ₅ | CH ₃ | 5-Cl-6-Br | (CH ₂) ₃ CH(CH ₃) ₃ | * |

INDEX TABLE C

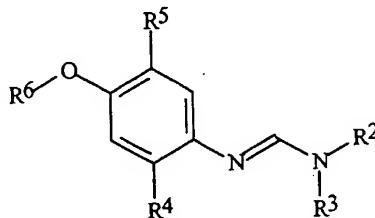


| Compound | m | R ² | R ³ | R ⁴ | R ⁵ | R ⁶ | m.p. (°C.) |
|----------|---|------------------------------------|-----------------|-----------------|-------------------|--|---------------|
| 77 | 1 | C ₂ H ₅ | CH ₃ | CH ₃ | 5-CH ₃ | (CH ₂) ₃ Si(CH ₃) ₂ (C ₂ H ₅) | 94-95 |
| 78 | 1 | <i>n</i> -Pr | CH ₃ | CH ₃ | 5-CH ₃ | (CH ₂) ₃ Si(CH ₃) ₂ (C ₂ H ₅) | * |
| 79 | 1 | C ₂ H ₅ | CH ₃ | CH ₃ | 5-CH ₃ | (CH ₂) ₃ Si(CH ₃)(C ₂ H ₅) ₂ | 81-82 |
| 80 | 2 | C ₂ H ₅ | CH ₃ | Cl | 3,5-diCl | (CH ₂) ₃ Si(CH ₃) ₃ | 94-97 |
| 81 | 2 | <i>n</i> -Pr | CH ₃ | Cl | 3,5-diCl | (CH ₂) ₃ Si(CH ₃) ₃ | 121-123 |
| 82 | 2 | <i>i</i> -Pr | CH ₃ | Cl | 3,5-diCl | (CH ₂) ₃ Si(CH ₃) ₃ | 118-119 |
| 83 | 2 | CH ₂ CH=CH ₂ | CH ₃ | Cl | 3,5-diCl | (CH ₂) ₃ Si(CH ₃) ₃ | 64-65 |
| 84 | 1 | C ₂ H ₅ | CH ₃ | CH ₃ | 5-Cl | (CH ₂) ₃ Si(CH ₃) ₂ (C ₂ H ₅) | * |

| Compound | m | R ² | R ³ | R ⁴ | R ⁵ | R ⁶ | m.p. (°C.) |
|----------|---|------------------------------------|-------------------------------|-----------------|------------------------|---|---------------|
| 85 | 1 | CH ₂ CH=CH ₂ | CH ₃ | CH ₃ | 5-Cl | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 86 | 1 | CH ₂ CH=CH ₂ | CH ₃ | CH ₃ | 5-CH ₃ | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 87 | 1 | C ₂ H ₅ | CH ₃ | CH ₃ | 5-F | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 88 | 1 | <i>n</i> -Pr | CH ₃ | CH ₃ | 5-F | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 89 | 1 | <i>n</i> -Bu | CH ₃ | CH ₃ | 5-F | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 90 | 1 | <i>i</i> -Pr | CH ₃ | CH ₃ | 5-F | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 91 | 1 | <i>n</i> -Bu | CH ₃ | CH ₃ | 5- <i>i</i> -Pr | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 92 | 1 | <i>i</i> -Pr | CH ₃ | CH ₃ | 5- <i>i</i> -Pr | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 93 | 1 | <i>n</i> -Pr | CH ₃ | CH ₃ | 5- <i>i</i> -Pr | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 94 | 1 | C ₂ H ₅ | CH ₃ | CH ₃ | 5- <i>i</i> -Pr | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 106 | 1 | C ₂ H ₅ | CH ₃ | CH ₃ | 5-CH ₃ | (CH ₂) ₃ CH(CH ₃) ₂ | * |
| 107 | 1 | CH ₃ | CH ₃ | CH ₃ | 5-CH ₃ | (CH ₂) ₃ CH(CH ₃) ₂ | * |
| 108 | 1 | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-CH ₃ | (CH ₂) ₃ CH(CH ₃) ₂ | * |
| 112 | 1 | CH ₃ | C ₂ H ₅ | CH ₃ | 5-Cl | (CH ₂) ₃ CH(CH ₃) ₂ | 138-140 |
| 113 | 1 | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-Cl | (CH ₂) ₃ CH(CH ₃) ₂ | 191-192 |
| 114 | 1 | C ₂ H ₅ | CH ₃ | CH ₃ | 5-Cl | (CH ₂) ₃ CH(CH ₃) ₂ | 58-60 |
| 117 | 2 | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 3,5-di-Cl | (CH ₂) ₃ CH(CH ₃) ₂ | 112-114 |
| 118 | 2 | C ₂ H ₅ | CH ₃ | CH ₃ | 3,5-di-Cl | (CH ₂) ₃ CH(CH ₃) ₂ | 68-70 |
| 119 | 2 | CH ₃ | CH ₃ | CH ₃ | 3,5-di-Cl | (CH ₂) ₃ CH(CH ₃) ₂ | 136-138 |
| 120 | 1 | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-Cl | (CH ₂) ₃ C(CH ₃) ₃ | 118-120 |
| 121 | 2 | CH ₃ | CH ₃ | CH ₃ | 3,5-di-Cl | (CH ₂) ₃ C(CH ₃) ₃ | 150-152 |
| 122 | 2 | C ₂ H ₅ | CH ₃ | CH ₃ | 3,5-di-Cl | (CH ₂) ₃ C(CH ₃) ₃ | 122-124 |
| 123 | 1 | CH ₃ | CH ₃ | Cl | 5-Cl | (CH ₂) ₃ CH(CH ₃) ₂ | 128-130 |
| 124 | 1 | C ₂ H ₅ | CH ₃ | Cl | 5-Cl | (CH ₂) ₃ CH(CH ₃) ₂ | 70-72 |
| 125 | 1 | C ₂ H ₅ | C ₂ H ₅ | Cl | 5-Cl | (CH ₂) ₃ CH(CH ₃) ₂ | 90-92 |
| 127 | 1 | <i>i</i> -Pr | C ₂ H ₅ | Cl | 5-Cl | (CH ₂) ₃ CH(CH ₃) ₂ | * |
| 133 | 2 | CH ₃ | CH ₃ | CH ₃ | 3-Cl-5-CH ₃ | (CH ₂) ₃ Si(CH ₃) ₃ | 128-130 |
| 134 | 2 | C ₂ H ₅ | CH ₃ | CH ₃ | 3-Cl-5-CH ₃ | (CH ₂) ₃ Si(CH ₃) ₃ | 110-112 |
| 136 | 2 | CH ₃ | CH ₃ | CH ₃ | 3-Cl-5-CH ₃ | (CH ₂) ₃ CH(CH ₃) ₃ | 136-138 |
| 137 | 2 | C ₂ H ₅ | CH ₃ | CH ₃ | 3-Cl-5-CH ₃ | (CH ₂) ₃ CH(CH ₃) ₃ | * |
| 138 | 2 | CH ₃ | CH ₃ | CH ₃ | 3-Cl-5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₃ | 148-150 |
| 139 | 2 | C ₂ H ₅ | CH ₃ | CH ₃ | 3-Cl-5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₃ | 120-123 |
| 163 | 1 | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-CH ₃ | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 164 | 1 | C ₂ H ₅ | CH ₃ | CH ₃ | 5-CH ₃ | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 165 | 1 | CH ₃ | CH ₃ | CH ₃ | 5-CH ₃ | (CH ₂) ₂ O(<i>t</i> -Bu) | * |

| Compound | m | R ² | R ³ | R ⁴ | R ⁵ | R ⁶ | m.p. (°C.) |
|-------------|---|-------------------------------|-------------------------------|-----------------|-------------------|---|---------------|
| 167 | 1 | CH ₃ | CH ₃ | CH ₃ | 5-CH ₃ | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 168 | 1 | CH ₃ | CH ₃ | CH ₃ | 5-Cl | (CH ₂) ₃ Si(CH ₃) ₃ | 98-99 |
| 169 (Ex. 6) | 1 | C ₂ H ₅ | CH ₃ | CH ₃ | 5-Cl | (CH ₂) ₃ Si(CH ₃) ₃ | 71-72 |
| 170 | 1 | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-Cl | (CH ₂) ₃ Si(CH ₃) ₃ | 62-63 |
| 177 | 1 | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-Cl | (CH ₂) ₃ C(CH ₃) ₃ | * |
| 178 | 1 | C ₂ H ₅ | CH ₃ | CH ₃ | 5-Cl | (CH ₂) ₃ C(CH ₃) ₃ | 88-90 |
| 179 | 2 | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 3,5-di-Cl | (CH ₂) ₃ Si(CH ₃) ₃ | 90-101 |
| 180 | 2 | CH ₃ | CH ₃ | CH ₃ | 3,5-di-Cl | (CH ₂) ₃ Si(CH ₃) ₃ | 89-90 |
| 181 | 2 | C ₂ H ₅ | CH ₃ | CH ₃ | 3,5-di-Cl | (CH ₂) ₃ Si(CH ₃) ₃ | 79-82 |
| 183 | 1 | CH ₃ | CH ₃ | Cl | 5-Cl | (CH ₂) ₃ Si(CH ₃) ₃ | 75-78 |
| 184 | 1 | C ₂ H ₅ | CH ₃ | Cl | 5-Cl | (CH ₂) ₃ Si(CH ₃) ₃ | 85-88 |
| 185 | 1 | C ₂ H ₅ | C ₂ H ₅ | Cl | 5-Cl | (CH ₂) ₃ Si(CH ₃) ₃ | 91-92 |
| 186 | 1 | CH ₃ | CH ₃ | Cl | 5-Cl | (CH ₂) ₃ C(CH ₃) ₃ | 106-108 |
| 187 | 1 | C ₂ H ₅ | CH ₃ | Cl | 5-Cl | (CH ₂) ₃ C(CH ₃) ₃ | 86-87 |
| 188 | 1 | C ₂ H ₅ | C ₂ H ₅ | Cl | 5-Cl | (CH ₂) ₃ C(CH ₃) ₃ | 88-89 |
| 191 | 1 | C ₂ H ₅ | C ₂ H ₅ | CH ₃ | 5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₃ | * |
| 192 | 1 | CH ₃ | CH ₃ | CH ₃ | 5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₃ | 102-104 |
| 194 | 1 | C ₂ H ₅ | CH ₃ | CH ₃ | 5-CH ₃ | (CH ₂) ₃ C(CH ₃) ₃ | 82-84 |

INDEX TABLE D



| Compound | R ² +R ³ | R ⁴ | R ⁵ | R ⁶ | m.p. (°C.) |
|----------|---------------------------------|-----------------|----------------|---|------------|
| 95 | (CH ₂) ₄ | CH ₃ | Cl | (CH ₂) ₃ Si(CH ₃) ₃ | * |
| 209 | (CH ₂) ₃ | CH ₃ | Cl | (CH ₂) ₃ Si(CH ₃) ₃ | * |

*See Index Table F for ¹H NMR data.

5

INDEX TABLE E

| Cmpd No. | ¹ H NMR Data (CDCl ₃ solution unless indicated otherwise) ^a |
|----------|--|
| 1 | δ 1.72 (s,3H), 1.78 (s,3H), 2.17 (s,3H), 2.24 (s,3H), 2.99 (s,6H), 4.46 (d,2H), 5.5 (t,1H), 6.55 (s,1H), 6.66 (s,1H), 7.38 (s,1H). |

| Cmpd No. | ¹ H NMR Data (CDCl ₃ solution unless indicated otherwise) ^a |
|----------|--|
| 2 | δ 1.6-1.8 (m,9H), 1.9-2.5 (m,10H), 2.98(s,6H), 4.46(d,2H), 5.1 (m,1H), 5.5 (m,1H), 6.54 (s,1H), 6.66 (s,1H), 7.38 (s,1H). |
| 3 | δ 1.6-2.4 (m,26H), 2.99 (s,6H), 4.5(d,2H), 5-5.2 (m,2H), 5.5 (m,1H), 6.54 (s,1H), 6.66 (s,1H), 7.38 (s,1H). |
| 4 | δ 1.25 (s,9H), 2.21(s,3H), 2.23 (s,3H), 2.99 (s,6H), 4.79 (s,2H), 6.50 (s,1H), 6.55 (s,1H), 7.37 (s,1H). |
| 5 | δ 1.5-2.3 (m,12H), 2.98(s,6H), 3.92 (t,2H), 4.95-5.1 (m,2H), 5.7-5.9 (m,1H), 6.54 (s,1H), 6.63 (s,1H), 7.37 (s,1H). |
| 6 | δ 1.8-1.92 (m,2H), 2.17-2.3 (m,8H), 2.98 (s,6H), 3.92 (t,2H), 4.97-5.13 (m,2H), 5.8-5.95 (m,1H), 5.55 (s,1H), 6.64 (s,1H), 7.37 (s,1H). |
| 7 | δ 1.6-2.04 (m,6H), 2.17 (s,3H), 2.22 (s,3H), 2.99 (s,6H), 3.26 (s,9H), 3.97 (t,2H), 6.54 (s,1H), 6.64 (s,1H), 7.38 (s,1H). |
| 8 | δ 0.96 (d,6H), 1.67 (q,2H), 1.87 (m,1H), 2.15 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.93 (t, 2H), 6.54 (s,1H), 6.64 (s,1H), 7.37 (s,1H). |
| 9 | δ 1.04 (d,6H), 1.8-2.35 (m,11H), 2.98 (s,6H), 3.93 (t,2H), 4.72 (d,1H), 4.98 (d,1H), 6.55 (s,1H), 6.64 (s,1H), 7.38 (s,1H). |
| 10 | δ 0.87 (d,6H), 0.94 (d,3H), 1.1-1.9 (m,10H), 2.16 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.93 (m,2H), 6.54 (s,1H), 6.63 (s,1H), 7.38 (s,1H). |
| 11 | δ 0.91 (s,9H), 0.98 (d,3H), 1.05-1.35 (m,2H), 1.5-1.9 (m,3H), 2.16 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.92 (t,3H), 6.54 (s,1H), 6.62 (s,1H), 7.38 (s,1H). |
| 12 | δ 0.99 (s,9H), 1.72 (t,2H), 2.15 (s,3H), 2.24 (s,3H), 2.98 (s,6H), 3.96 (t,2H), 6.54 (s,1H), 6.63 (s,1H), 7.38 (s,1H). |
| 13 | δ 0.91 (d,6H), 1.28-1.82 (m,5H), 2.16 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.89 (t,2H), 6.54 (s,1H), 6.63 (s,1H), 7.37 (s,1H). |
| 14 | δ 0.95 (d,3H), 1.18-2.1 (m,13H), 2.15 (s,3H), 2.23 (s,3H), 2.97 (s,6H), 3.93 (m,2H), 5.1 (t,1H), 6.54 (s,1H), 6.63 (s,1H), 7.37 (s,1H). |
| 15 | δ 0.95 (d,3H), 1.18-2.1 (m,13H), 2.15 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.94 (m,2H), 5.1 (t,1H), 6.54 (s,1H), 6.63 (s,1H), 7.37 (s,1H). |
| 16 | δ 1.9-2.1 (m,4H), 2.16 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.63 (t,2H), 3.95 (t,2H), 6.55 (s,1H), 6.62 (s,1H), 7.37 (s,1H). |
| 17 | δ 1.6-2 (m,6H), 2.16 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.57 (t,2H), 3.92 (t,2H), 6.54 (s,1H), 6.62 (s,1H), 7.37 (s,1H). |
| 18 | δ 0.91 (m,3H), 1.2-1.8 (m,9H), 2.15 (s,3H), 2.22 (s,3H), 2.98 (s,6H), 4.21 (m,1H), 6.53 (s,1H), 6.64 (s,1H), 7.39 (s,1H). |

| Cmpd No. | ¹ H NMR Data (CDCl ₃ solution unless indicated otherwise) ^a |
|----------|--|
| 19 | δ 0.93 (t,3H), 1.3-1.55 (m,4H), 1.7-1.82 (m,2H), 2.16 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.9 (t,2H), 6.54 (s,1H), 6.63 (s,1H), 7.37 (s,1H). |
| 20 | δ 0.9 (t,3H), 1.3-1.56 (m,6H), 1.7-1.82 (m,2H), 2.16 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.9 (t,2H), 6.55 (s,1H), 6.63 (s,1H), 7.38 (s,1H). |
| 21 | δ 0.89 (t,3H), 1.2-1.6 (m,8H), 1.7-1.82 (m,2H), 2.16 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.9 (t, 2H), 6.54 (s,1H), 6.64 (s,1H), 7.37 (s,1H). |
| 22 | δ 0.89 (t,3H), 1.2-1.56 (m,10H), 1.7-1.82 (m,2H), 2.16 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.9 (t,2H), 6.54 (s,1H), 6.63 (s,1H), 7.38 (s,1H). |
| 23 | δ 0.88 (t,3H), 1.2-1.56 (m,12H), 1.7-1.82 (m,2H), 2.16 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.9 (t,2H), 6.54 (s,1H), 6.63 (s,1H), 7.37 (s,1H). |
| 24 | δ 0.88 (t,3H), 1.2-1.56 (m,14H), 1.7-1.82 (m,2H), 2.16 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.9 (t,2H), 6.54 (s,1H), 6.63 (s,1H), 7.37 (s,1H). |
| 25 | δ 0.88 (t,3H), 1.2-1.82 (m,20H), 2.16 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.9 (t,2H), 6.54 (s,1H), 6.63 (s,1H), 7.37 (s,1H). |
| 26 | δ 0.02 (t,9H), 0.6 (m,2H), 1.7-1.82 (m,2H), 2.17 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.87 (t,2H), 6.54 (s,1H), 6.62 (s,1H), 7.38 (s,1H). |
| 27 | δ 0.05 (s,6H), 0.9 (s,9H), 1.97 (m,2H), 2.15 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.82 (t,2H), 4.0 (t,2H), 6.54 (s,1H), 6.64 (s,1H), 7.37 (s,1H). |
| 28 | δ 0.9 (t,6H), 1.2-1.4 (m,8H), 1.5-1.7 (m,4H), 2.15 (s,3H), 2.2 (s,3H), 3.0 (s,6H), 4.1 (m,1H), 6.5 (s,1H), 6.6 (s,1H), 7.4 (s,1H). |
| 29 | δ 0.9 (t,6H), 1.2-1.4 (m,6H), 1.5-1.7 (m,4H), 2.15 (s,3H), 2.25 (s,3H), 3.0 (s,6H), 4.05-4.2 (m,1H), 6.5 (s,1H), 6.6 (s,1H), 7.4 (s,1H). |
| 30 | δ 0.9 (m,6H), 1.2-1.4 (m,12 H), 1.5-1.7 (m,4H), 2.1 (s,3H), 2.2 (s,3H), 3.0 (s,6H), 4.05-4.2 (m,1H), 6.45 (s,1H), 6.6 (s,1H), 7.35 (s, H). |
| 31 | δ 0.8 (d,6 H), 0.9(t,3H), 1.2-1.4 (m,2H), 1.5-1.7 (m,4H), 2.1 (s,3H), 2.2 (s,3H), 3.0 (s,6H), 3.95-4.1 (m,1H), 6.5 (s,1H), 6.6 (s,1H), 7.4 (s,1H). |
| 32 | δ 0.8 (d,6H), 1.2(d,3H), 1.4-1.6 (m,2H), 1.6-1.75 (m,2H), 2.15 (s,3H), 2.2 (s,3H), 2.95 (s,6H), 4.10-4.2 (m,1H), 6.5 (s,1H), 6.6 (s,1H), 7.4 (s,1H). |
| 33 | δ 0.8 (d,6H), 0.9(t,3H), 1.2-1.4 (m,6H), 1.5-1.7 (m,4H), 2.15 (s,3H), 2.25 (s,3H), 3.0 (s,6H), 4.05-4.2 (m,1H), 6.5 (s,1H), 6.6 (s,1H), 7.4 (s,1H). |
| 34 | δ 0.9 (t,6H), 1.55-1.75 (m,4H), 2.1 (s,3H), 2.2 (s,3H), 2.95 (s,6H), 3.95-4.1 (m,1H), 6.5 (s,1H), 6.6 (s,1H), 7.4 (s,1H). |

| Cmpd No. | ¹ H NMR Data (CDCl ₃ solution unless indicated otherwise) ^a |
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| 35 | δ 0.85 (d,6H), 0.95(d,6H), 1.2-1.4 (m,4H), 1.5-1.8 (m,6H), 2.1 (s,3H), 2.2 (s,3H), 2.95 (s,6H), 3.8-3.95 (m,1H), 6.5 (s, 1H), 6.6 (s,1H), 7.4 (s,1H). |
| 36 | δ 0.8-0.9 (t,6H), 1.3-1.5 (m,4H), 1.5-1.65 (m,4H), 2.15 (s,3H), 2.25 (s,3H), 3.0 (s,6H), 4.05-4.2 (m,1H), 6.5 (s,1H), 6.6 (s,1H), 7.4 (s,1H). |
| 37 | δ 0.8-0.9 (q,6H), 1.2-1.4 (m,14 H), 1.5-1.7 (m,4H), 2.1(s,3H), 2.2(s,3H), 2.95 (s,6H), 4.05-4.1 (m,1H), 6.5 (s,1H), 6.6 (s,1H), 7.4 (s,1H). |
| 38 | δ 0.06 (s,9H), 1.64 (s,2H), 2.20 (s,3H), 2.24 (s,3H), 2.98 (s,6H), 4.31 (s,2H), 4.75 (s,1H), 5.03 (s,1H), 6.55 (s,1H), 6.61 (s,1H), 7.38 (s,1H). |
| 39 | δ 1.66 (s,3H), 1.72 (s,3H), 2.16 (s,3H), 2.22 (s,3H), 2.45 (q,2H), 2.98 (s,6H), 3.88 (t,2H), 5.23 (t,1H), 6.54 (s,1H), 6.63 (s,1H), 7.37 (s,1H). |
| 40 | δ 1.04 (s,9H), 2.18 (s,3H), 2.22 (s,3H), 2.98 (s,6H), 4.43 (d,2H), 5.6 (m,1H), 5.8 (d,1H), 6.54 (s,1H), 6.65 (s,1H), 7.38 (s,1H). |
| 41 | δ 1.22 (s,9H), 2.16 (s,3H), 2.22 (s,3H), 2.98 (s,6H), 3.69 (t, 2H), 4.02 (t,2H), 6.53 (s,1H), 6.66 (s,1H), 7.37 (s,1H). |
| 42 | δ 1.62 (s,6H), 1.96 (m,4H), 2.16 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.94 (t,2H), 6.55 (s,1H), 6.62 (s,1H), 7.37 (s,1H). |
| 43 | δ 1.18 (s,6H), 1.6-1.9 (m,4H), 2.16 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.2 (s,3H), 3.9 (t,2H), 6.54 (s,1H), 6.62 (s,1H), 7.37 (s,1H). |
| 44 | δ 1.15-1.25 (m,9H), 1.6-1.9 (m,4H), 2.16 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.4 (q,2H), 3.9 (t,2H), 6.54 (s,1H), 6.62 (s,1H), 7.37 (s,1H). |
| 45 | δ 1.26 (s, 6H), 1.6-1.97 (m, 4H), 2.16 (s, 3H), 2.23 (s, 3H), 2.98 (s, 6H), 3.94 (t, 2H), 6.57 (s, 1H), 6.63 (s, 1H), 7.37 (s, 1H). |
| 46 | δ 1-1.1 (m,6H), 1.51 (s,3H), 1.6-2.1 (m,4H), 2.16 (s,3H), 2.23 (s,3H), 2.99 (s, 6H), 3.94 (m,2H), 6.55 (s,1H), 6.61 (s,1H), 7.37 (s,1H). |
| 47 | δ 1.2-2 (m,12H), 2.16 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.2 (s,3H), 3.94 (t,2H), 6.55 (s,1H), 6.62 (s,1H), 7.37 (s,1H). |
| 48 | δ 0.88 (d,6H), 1.2-1.9 (m,7H), 2.16 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.9 (t,2H), 6.54 (s,1H), 6.63 (s,1H), 7.37 (s,1H). |
| 49 | δ 0.8-2 (m,15H), 2.16 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.9 (t,2H), 6.54 (s,1H), 6.63 (s,1H), 7.37 (s,1H). |
| 50 | δ 0.92 (s,9H), 1.34 (m,2H), 1.74 (m,2H), 2.16 (s,3H), 2.23 (s,3H), 2.98 (s,6H), 3.88 (t,2H), 6.54 (s,1H), 6.62 (s,1H), 7.37 (s,1H). |
| 51 | δ 0.01 (s,6H), 0.46-0.7 (m,4H), 0.93 (t,3H), 1.7-1.87 (m,2H), 2.18 (s,3H), 2.24 (s,3H), 3.0 (s,6H), 3.88 (t,2H), 6.56 (s,1H), 6.64 (s,1H), 7.39 (s,1H). |

| Cmpd No. | ¹ H NMR Data (CDCl ₃ solution unless indicated otherwise) ^a |
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| 52 | δ 0.01 (s,6H), 0.46-0.7 (m,4H), 0.97 (t,3H), 1.27-1.4 (m,2H), 1.7-1.87 (m,2H), 2.18 (s,3H), 2.24 (s,3H), 2.99 (s,6H), 3.87 (t,2H), 6.56 (s,1H), 6.63 (s,1H), 7.38 (s,1H). |
| 53 | δ 0.00 (s,3H), 0.46-0.7 (m,6H), 0.93 (t,6H), 1.7-1.87 (m,2H), 2.21 (s,3H), 2.27 (s,3H), 3.0 (s,6H), 3.9 (t,2H), 6.59 (s,1H), 6.66 (s,1H), 7.42 (s,1H). |
| 54 | δ 0.02 (s,9H), 0.6 (m,2H), 1.2 (t,3H), 1.8 (m,2H), 2.23 (s,3H), 2.98 (s,3H), 3.35 (br s,2H), 3.93 (t,2H), 6.74 (s,1H), 6.77 (s,1H), 7.4 (s,1H). |
| 55 | δ 0.03 (s,9H), 0.6 (m,2H), 1.83 (m,2H), 3.05 (s,6H), 3.92 (t,2H), 6.82 (s,1H), 7.41 (s,1H). |
| 56 | δ 0.02 (s,9H), 0.6 (m,2H), 1.8 (m,2H), 2.23 (s,3H), 2.96 (s,3H), 3.75-3.97 (m,4H), 5.23 (m,2H), 5.83 (m,1H), 6.74 (s,1H), 6.77 (s,1H), 7.42 (s,1H). |
| 57 | δ 0.00 (s,6H), 0.46-0.65 (m,4H), 0.95 (t,3H), 1.21 (t,3H), 1.82 (m,2H), 2.24 (s,3H), 2.99 (s,3H), 3.37 (br s,2H), 3.94 (t,2H), 6.75 (s,1H), 6.78 (s,1H), 7.4 (s,1H). |
| 58 | δ 0.02 (s,9H), 0.6 (m,2H), 0.92 (t,3H), 1.61 (m,2H), 1.8 (m,2H), 2.22 (s,3H), 2.98 (s,3H), 3.22 (br s, 2H), 3.92 (t,2H), 6.74 (s,1H), 6.76 (s,1H), 7.4 (s,1H). |
| 59 | δ 0.02 (s,9H), 0.6 (m,2H), 1.2 (t,3H), 1.79 (m,2H), 2.21 (s,3H), 2.98 (s,3H), 3.35 (br s,2H), 3.94 (t,2H), 6.55 (d,1H), 6.77 (d,1H), 7.4 (s,1H). |
| 60 | δ 0.02 (s,9H), 0.6 (m,2H), 0.92 (t,3H), 1.61 (m,2H), 1.79 (m,2H), 2.2 (s,3H), 2.98 (s,3H), 3.21 (br s,2H), 3.93 (t,2H), 6.55 (d,1H), 6.77 (d,1H), 7.4 (s,1H). |
| 61 | δ 0.02 (s,9H), 0.6 (m,2H), 0.72 (m,4H), 1.8 (m,2H), 2.22 (s,3H), 2.65 (m,1H), 3.01 (s,3H), 3.93 (t,2H), 6.74 (s,1H), 6.77 (s,1H), 7.58 (s,1H). |
| 62 | δ 0.01 (s,9H), 0.6 (m,2H), 0.95 (t,3H), 1.34 (m,2H), 1.57 (m,2H), 1.78 (m,2H), 2.2 (s,3H), 2.98 (s,3H), 3.24 (br s,2H), 3.93 (t,2H), 6.55 (d,1H), 6.77 (d, 1H), 7.39 (s,1H). |
| 63 | δ 0.01 (s,9H), 0.6 (m,2H), 1.23 (d,6H), 1.79 (m,2H), 2.21 (s,3H), 2.9 (s,3H), 3.64 (br s,1H), 3.93 (t,2H), 6.55 (d,1H), 6.77 (d,1H), 7.43 (s,1H). |
| 64 | δ 0.01 (s,9H), 0.6 (m,2H), 1.79 (m,2H), 2.2 (s,3H), 2.96 (s,3H), 3.9-4.0 (m,4H), 5.21(m,2H), 5.81(m,1H), 6.55 (d,1H), 6.77 (d,1H), 7.42 (s,1H). |

| Cmpd No. | ¹ H NMR Data (CDCl ₃ solution unless indicated otherwise) ^a |
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| 65 | δ -0.01 (s,6H), 0.47-0.8 (m,8H), 0.94 (t,3H), 1.8 (m,2H), 2.22 (s,3H), 2.65 (m,1H), 3.01 (s,3H), 3.93 (t,2H), 6.74 (s,1H), 6.77 (s,1H), 7.59 (s,1H). |
| 66 | δ -0.02 (s,6H), 0.45-0.63 (m,4H), 0.93 (t,3H), 1.2 (t,3H), 1.78 (m,2H), 2.21 (s,3H), 2.98 (s,3H), 3.37 (br s,2H), 3.93 (t,2H), 6.55 (d,1H), 6.77 (d,1H), 7.4 (s,1H). |
| 67 | δ -0.02 (s,6H), 0.45-0.63 (m,4H), 0.9-1 (m,6H), 1.61 (m,2H), 1.78 (m,2H), 2.2 (s,3H), 2.98 (s,3H), 3.2 (br s,2H), 3.93 (t,2H), 6.52 (d,1H), 6.77 (d,1H), 7.4 (s,1H). |
| 68 | δ -0.02 (s,6H), 0.45-0.63 (m,4H), 0.9-1 (m,6H), 1.31 (m,2H), 1.57 (m,2H), 1.78 (m,2H), 2.2 (s,3H), 2.98 (s,3H), 3.25 (br s,2H), 3.93 (t,2H), 6.52 (d,1H), 6.77 (d,1H), 7.4 (s,1H). |
| 69 | δ -0.02 (s,6H), 0.45-0.63 (m,4H), 0.96 (t,3H), 1.23 (d,6H), 1.78 (m,2H), 2.21 (s,3H), 2.89 (s,3H), 3.65 (br s,1H), 3.93 (t,2H), 6.55 (d,1H), 6.77 (d,1H), 7.45 (s,1H). |
| 70 | δ -0.01 (s,6H), 0.45-0.63 (m,4H), 0.94 (t,3H), 1.78 (m,2H), 2.21 (s,3H), 2.97 (s,3H), 3.9-4.0 (m,4H), 5.21(m,2H), 5.81(m,1H), 6.57 (d,1H), 6.78 (d,1H), 7.43 (s,1H). |
| 71 | δ -0.02 (s,6H), 0.45-0.8 (m,8H), 0.94 (t,3H), 1.78 (m,2H), 2.2 (s,3H), 2.67 (m, 1H), 2.98 (s,3H), 3.93 (t,2H), 6.55 (d,1H), 6.77 (d,1H), 7.58 (s,1H). |
| 72 | δ 0.01 (s,9H), 0.59 (m,2H), 0.72 (m,4H), 1.79 (m,2H), 2.2 (s,3H), 2.65 (m,1H), 3.01 (s,3H), 3.93 (t,2H), 6.55 (d,1H), 6.77 (d,1H), 7.58 (s,1H). |
| 73 | δ 0.00 (s,9H), 0.6 (m,2H), 0.93 (t,3H), 1.19 (d,6H), 1.3 (m,2H), 1.55 (m,2H), 1.75 (m,2H), 2.2 (s,3H), 2.95 (s,3H), 3.3 (m,3H), 3.85 (t,2H), 6.55 (s,1H), 6.65 (s,1H), 7.4 (s,1H). |
| 74 | δ 0.01 (s,9H), 0.6 (m,2H), 1.22 (m,12H), 1.8 (m,2H), 2.2 (s,3H), 2.86 (s,3H), 3.3 (m,1H), 3.87 (t,2H), 6.58 (s,1H), 6.62 (s,1H), 7.45 (s,1H). |
| 75 | δ 0.00 (s,9H), 0.6 (m,2H), 0.9 (t,3H), 1.2 (d,6H), 1.55-1.8 (m,4H), 2.19 (s,3H), 2.96 (s,3H), 3.2 (m,3H), 3.85(t,2H), 6.57 (s,1H), 6.62 (s,1H), 7.37 (s,1H). |
| 76 | δ 0.00 (s,9H), 0.6 (m,2H), 1.2 (m,9H), 1.7 (m,2H), 2.2 (s,3H), 2.96 (s,3H), 3.3 (m,3H), 3.85 (t,2H), 6.57 (s,1H), 6.62 (s,1H), 7.4 (s,1H). |
| 78 | δ 0.01 (s,6H), 0.46-0.67 (m,4H), 0.9-1.0 (m,6H), 1.67-1.82 (m,4H), 2.17 (s,3H), 2.22 (s,3H), 3.27 (s,3H), 3.75 (t,2H), 3.9 (t,2H), 6.64 (s,1H), 6.7 (s,1H), 6.95 (s,1H). |

| Cmpd No. | ¹ H NMR Data (CDCl ₃ solution unless indicated otherwise) ^a |
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| 84 | δ 0.00 (s,6H), 0.46-0.67 (m,4H), 0.94 (t,3H), 1.29 (t,3H), 1.77-1.9 (m,2H), 2.23 (s,3H), 3.26 (s,3H), 3.87 (q,2H), 3.96 (t,2H), 6.65 (s,1H), 6.76 (s,1H), 7.19 (s,1H). |
| 85 | δ 0.03 (s,9H), 0.6 (m,2H), 1.82 (m,2H), 2.21 (s,3H), 3.33 (s,3H), 3.96 (t,2H), 4.4 (d,2H), 5.3 (m,2H), 5.9 (m,1H), 6.75 (m,2H), 7.2 (s,1H). |
| 86 | δ 0.04 (s,9H), 0.6 (m,2H), 1.78 (m,2H), 2.18 (s,3H), 2.21 (s,3H), 3.33 (s,3H), 3.9 (t,2H), 4.4 (d,2H), 5.3 (m,2H), 5.9 (m,1H), 6.64 (s,1H), 6.79 (s,1H), 6.94 (s,1H). |
| 87 | δ 0.02 (s,9H), 0.6 (m,2H), 1.28 (t,3H), 1.8 (m,2H), 2.2 (s,3H), 3.25 (s,3H), 3.86 (q,2H), 3.94 (t,2H), 6.65 (s,1H), 6.77 (d,1H), 6.95 (d,1H). |
| 88 | δ 0.02 (s,9H), 0.6 (m,2H), 0.97 (t,3H), 1.67-1.82 (m,4H), 2.19 (s,3H), 3.27 (s,3H), 3.74 (t,2H), 3.94 (t,2H), 6.69 (s,1H), 6.79 (d,1H), 6.97 (d,1H). |
| 89 | δ 0.02 (s,9H), 0.6 (m,2H), 0.97 (t,3H), 1.39 (m,2H), 1.62-1.82 (m,4H), 2.2 (s,3H), 3.27 (s,3H), 3.77 (t,2H), 3.96 (t,2H), 6.65 (s,1H), 6.79 (d,1H), 6.97 (d,1H). |
| 90 | δ 0.02 (s,9H), 0.6 (m,2H), 1.22 (d,6H), 1.8 (m,2H), 2.2 (s,3H), 3.01 (s,3H), 3.96 (t,2H), 5.44 (m,1H), 6.65 (s,1H), 6.79 (d,1H), 6.95 (d,1H). |
| 91 | δ 0.00 (s,9H), 0.6 (m,2H), 0.97 (t,3H), 1.18 (d,6H), 1.4 (m,2H), 1.6-1.8 (m,4H), 2.2 (s,3H), 3.21 (m,4H), 3.7 (m,2H), 3.87 (t,2H), 6.63 (s,1H), 6.7 (s,1H), 6.93 (s,1H). |
| 92 | δ 0.01 (s,9H), 0.6 (m,2H), 1.2 (m,12H), 1.8 (m,2H), 2.2 (s,3H), 2.91 (s,3H), 3.3 (m,1H), 3.87 (t,2H), 5.4 (m,1H), 6.63 (s,1H), 6.7 (s,1H), 6.91 (s,1H). |
| 93 | δ 0.00 (s,9H), 0.6 (m,2H), 0.97 (t,3H), 1.18 (d,6H), 1.8 (m,4H), 2.19(s,3H), 3.22 (m,4H), 3.7 (m,2H), 3.87(m,2H), 6.63 (s,1H), 6.7 (s,1H), 6.94 (s,1H). |
| 94 | δ: 0.03 (s,9H), 0.6 (m,2H), 1.18 (d,6H), 1.25 (t,3H), 1.7 (m,2H), 2.2 (s,3H), 3.2-3.3 (m,4H), 3.87 (m,4H), 6.57 (s,1H), 6.7 (s,1H), 6.9 (s,1H). |
| 95 | δ 0.02 (s,9H), 0.6 (m,2H), 1.8 (m,2H), 1.94 (m,4H), 2.24 (s,3H), 3.48 (m,4H), 3.93 (t,2H), 6.73 (s,1H), 6.77 (s,1H), 7.6 (s,1H). |
| 96 | δ 0.95 (d,6H), 1.25-1.4 (m,2H), 1.5-1.7 (m,3H), 2.0 (s,3H), 2.15 (s,3H), 3.0 (s,6H), 6.4 (s,1H), 6.6 (s,1H). |
| 97 | δ 0.8-0.95 (m,9H), 1.15-1.65 (m,9H), 1.75 (s,3H), 2.0 (s,3H), 2.10 (s,3H), 3.0 (s,6H), 4.4 (m,1H), 6.35 (s,1H), 6.6 (s,1H). |

| Cmpd No. | ¹ H NMR Data (CDCl ₃ solution unless indicated otherwise) ^a |
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| 98 | δ 0.9 (s,9H), 1.0 (d,3H), 1.0-1.6 (m,5H), 1.75 (s,3H), 2.0 (s,3H), 2.15 (s,3H), 3.0 (s,6H), 6.4 (s,1H), 6.6 (s,1H). |
| 99 | δ 0.9 (t,6H), 1.3-1.7 (m,16H), 1.8 (s,3H), 2.0 (s,3H), 2.2 (s,3H), 3.05 (s,6H), 4.1 (m,1H), 6.35 (s,1H), 6.65 (s,1H). |
| 100 | δ 0.8-1.0 (m,10H), 1.2-1.7 (m,6H), 1.8 (s,3H), 2.0 (s,3H), 2.15 (s,3H), 3.0 (s,6H), 4.05 (m,1H), 6.35 (s,1H), 6.6 (s,1H). |
| 101 | δ 0.9 (t,6H), 1.4-1.7 (m,8H), 1.8 (s,3H), 2.0 (s,3H), 2.15 (s,3H), 3.05 (s,6H), 4.1 (m,1H), 6.4 (s,1H), 6.6 (s,1H). |
| 102 | δ 0.9 (t,6H), 1.25 (d,3H), 1.3-1.7 (m,5H), 1.8 (s,3H), 2.0 (s,3H), 2.15 (s,3H), 3.05 (s,6H), 4.15 (m,1H), 6.4 (s,1H), 6.6 (s,1H). |
| 103 | δ 0.9 (d,12H), 1.2-1.7 (m,10H), 1.8 (s,3H), 2.0 (s,3H), 2.15 (s,3H), 3.0 (s,6H), 4.1 (m,1H), 6.4 (s,1H), 6.6 (s,1H). |
| 104 | δ 0.9-1.0 (m,3H), 1.25 (m,3H), 1.5-1.7 (m,6H), 1.8 (s,3H), 2.0 (s,3H), 2.15 (s,3H), 3.0 (s,6H), 4.1 (m,1H), 4.7 (d,2H), 6.4 (s,1H), 6.6 (s,1H). |
| 105 | δ 0.9 (d,6H), 1.2 (d,2H), 1.25 (m,2H), 1.4-1.6 (m,4H), 2.2 (s,3H), 2.37 (s,3H), 6.6 (s,1H), 7.15 (s,1H), 7.4 (s,1H). |
| 106 | δ 0.95 (d,6H), 1.28 (t,2H), 1.35 (m,1H), 1.6 (m,2H), 1.8 (m,2H), 2.18 (s,3H), 2.1 (s,3H), 3.22 (s,3H), 3.88 (q,2H), 3.92 (t,2H), 6.6 (s,1H), 6.9(s,1H). |
| 108 | δ 0.9 (d,6H), 1.2-1.4 (t & m,8H), 1.6 (m,2H), 1.75 (m,2H), 2.15 (s,3H), 2.2 (s,3H), 3.7 (q,4H), 3.9 (t,2H), 6.6 (s,1H), 6.9 (s,1H). |
| 110 | δ 0.9 (d,6H), 1.05 (m,2H), 1.4 (m,1H), 1.7 (m,2H), 1.8 (s,3H), 2.0 (s,3H), 3.0 (s,6H), 3.95 (t,2H), 6.65 (s,1H), 6.75 (s,1H). |
| 111 | δ 0.9 (d,6H), 1.35 (m,2H), 1.65 (m,2H), 1.7 (m,2H), 2.25 (s,3H), 3.0 (s,6H), 3.95 (s,6H), 6.65 (s,1H), 7.3 (s,1H). |
| 115 | δ 0.9 (d,6H), 1.4 (t,2H), 1.6 (m,1H), 1.8 (m,2H), 2.3 (s,3H), 3.0 (s,6H), 3.9 (t,2H), 6.7 (s,1H), 7.2 (s,1H). |
| 116 | δ 0.95 (d,6H), 1.3-1.5 (m,2H), 1.5-1.7 (m,2H), 1.8 (s,3H), 1.8-1.95 (m,1H), 2.2 (s,3H), 3.0 (s,6H), 4.8 (t,2H), 6.8 (s,1H). |
| 126 | δ 0.95 (d,6H), 1.3 (t,2H), 1.6 (m,1H), 1.8 (m,2H), 3.0 (s,6H), 3.9 (t,2H), 6.9 (s,1H), 7.4 (s,1H). |
| 127 | δ 0.9 (d,6H), 1.2 (d,6H), 1.3 (m,2H), 1.6 (m,1H), 1.8 (m,2H), 3.05 (s,3H), 3.95 (t,2H), 5.40 (m,1H), 6.8 (s,1H), 6.9 (s,1H), 7.80 (s,1H). |
| 128 | δ 0.00 (s,9H), 0.62 (m,2H), 2.1 (s,3H), 3.00 (s,6H), 3.55 (s,3H), 3.85 (t,2H), 6.4 (s,1H), 6.6 (s,1H). |

| Cmpd No. | ¹ H NMR Data (CDCl ₃ solution unless indicated otherwise) ^a |
|----------|---|
| 129 | δ 0.0 (s,9H), 0.6 (m,2H), 1.2 (t,2H), 1.8 (m,2H), 2.08 (s,3H), 2.93 (s,3H), 3.3 (q,2H), 3.52 (s,3H), 3.8 (t,2H), 6.652 (s,1H), 6.66 (s,1H). |
| 130 | δ 0.0 (s,9H), 0.6 (m,2H), 1.8 (m,2H), 2.1 (s,3H), 3.0 (s,6H), 3.6 (t,2H), 6.8 (d,2H). |
| 131 | δ 0.00 (s,9H), 0.62 (m,2H), 1.2 (t,3H), 1.8 (s,3H), 2.1 (s,6H), 3.00 (s,3H), 3.3 (q,2H), 3.5 (s,3H), 3.9 (t,2H), 6.45 (s,1H), 6.6 (s,1H). |
| 132 | δ 0.89 (d,6H), 1.34 (m,2H), 1.587 (m,1H), 1.8 (m,2H), 2.2 (s,3H), 2.26 (s,3H), 2.96 (s,6H), 3.78 (t,2H), 6.43 (s,1H), 7.3 (s,1H). |
| 135 | δ 0.89 (s,9H), 1.35 (m,2H), 1.8 (m,2H), 2.2 (s,3H), 2.25 (s,3H), 3.0 (s,6H), 3.8 (t,2H), 6.45 (s,1H), 7.3 (s,1H). |
| 137 | δ 0.95 (d,6H), 1.3 (t,3H), 1.4 (m,2H), 1.6 (m,1H), 1.85 (m,2H), 2.3 (s,6H), 3.35 (s,3H), 3.9 (m,4H), 6.7 (s,1H), 6.95 (s,1H). |
| 140 | δ 0.0 (s,9H), 0.5-0.65 (m,2H), 1.2 (t,3H), 1.6-1.85 (m,2H), 2.2 (s,3H), 2.25 (s,3H), 2.95 (s,3H), 3.3 (br s,2H), 3.75 (t,2H), 6.4 (s,1H), 7.3 (s,1H). |
| 141 | δ 0.9 (m,6H), 1.2-1.25 (m,6H), 1.4-1.5 (m,4H), 2.2 (s,3H), 2.3 (s,3H), 2.9 (m,1H), 3.0 (s,6H), 6.6 (s,1H), 7.15 (s,1H), 7.2 (s,1H). |
| 142 | δ 0.9 (m,6H), 1.2-1.7 (m,10H), 1.75 (s,3H), 1.95 (s,3H), 2.1 (s,3H), 3.0 (s,6H), 4.1 (m,1H), 6.45 (s,1H), 6.6 (s,1H). |
| 143 | δ 0.9 (m,6H), 1.2-1.5 (m,8H), 1.6 (m,4H), 1.8 (s,3H), 2.0 (s,3H), 2.1 (s,3H), 3.0 (s,6H), 4.1 (m,1H), 6.4 (s,1H), 6.7 (s,1H). |
| 144 | δ 0.8-0.9 (m,6H), 1.1 (d,3H), 1.2-1.6 (m,5H), 2.05 (s,3H), 2.2 (s,3H), 2.95 (s,6H), 3.4 (m,1H), 6.4 (s,1H), 7.4 (s,1H). |
| 145 | δ 0.8-0.9 (m,6H), 1.1-1.5 (m,16H), 1.2-1.6 (m,5H), 2.0 (s,3H), 2.2 (s,3H), 2.9 (s,6H), 3.3 (m,1H), 6.4 (s,1H), 6.45 (s,1H), 7.4 (s,1H). |
| 146 | δ 0.9 (m,6H), 1.25-1.5 (m,8H), 2.0 (s,3H), 2.2 (s,3H), 3.0 (s,6H), 3.35 (m,1H), 6.4 (s,1H), 6.45 (s,1H), 7.4 (s,1H). |
| 147 | δ 0.85 (s,9H), 0.95 (d,3H), 1.2 (m,2H), 1.45 (m,1H), 1.6 (m,2H), 2.0 (s,3H), 2.2 (s,3H), 3.0 (s,6H), 3.1 (m,1H), 6.4 (s,1H), 6.5 (s,1H), 7.2 (s,1H). |
| 148 | δ 0.8-0.9 (m,9H), 1.2-1.3 (m,6H), 1.4-1.5 (m,5H), 2.0 (s,3H), 2.2 (s,3H), 3.0 (s,6H), 3.3 (m,1H), 6.4 (s,1H), 6.5 (s,1H), 7.4 (s,1H). |
| 149 | δ 0.8-0.9 (m,9H), 1.15-1.3 (m,2H), 1.4-1.6 (m,5H), 2.0 (s,3H), 2.2 (s,3H), 2.95 (s,6H), 3.2 (m,1H), 6.4 (s,1H), 6.5 (s,1H), 7.4 (s,1H). |
| 150 | δ 0.8-0.9 (m,6H), 1.2-1.4 (m,8H), 1.4-1.5 (m,4H), 2.0 (s,3H), 2.2 (s,3H), 2.95 (s,6H), 3.3 (m,1H), 6.35 (s,1H), 6.45 (s,1H), 7.35 (s,1H). |

| Cmpd No. | ¹ H NMR Data (CDCl ₃ solution unless indicated otherwise) ^a |
|----------|---|
| 151 | δ 0.8-0.9 (m,12H), 1.1-1.3 (m,4H), 1.4-1.5 (m,6H), 2.0 (s,3H), 2.2 (s,3H), 2.95 (s,6H), 3.25 (m,1H), 6.35 (s,1H), 6.45 (s,1H), 7.35(s,1H). |
| 152 | δ 0.9 (m, 3H), 1.4-1.7 (m,6H), 1.7 (m,3H), 2.1 (s,3H), 2.2 (s,3H), 3.0 (s,6H), 3.3 (m,1H), 4.7 (d,2H), 6.4 (s,1H), 6.55 (s,1H), 7.4 (s,1H). |
| 153 | δ 1.3 (s,9H), 2.1 (s,3H), 2.2 (s,3H), 2.8 (t,2H), 2.95 (s,6H), 3.3 (t,2H), 6.4 (s,1H), 6.5 (s,1H), 7.4 (s, 1H). |
| 154 | δ 0.9 (dd,6H), 1.2-1.3 (m,2H), 1.5-1.7 (m,3H), 2.05 (s,3H), 2.2 (s,3H), 2.95 (s,6H), 3.05 (m,2H), 6.45 (s,1H), 6.5 (s,1H), 7.35 (s,1H). |
| 155 | δ 0.95 (t,6H), 1.3-1.7 (m,12H), 2.25 (s,3H), 2.4 (s,3H), 2.9 (m,1H), 3.0 (s,6H), 6.6 (s, 1H), 7.2 (s,1H), 7.4 (s,1H). |
| 156 | δ 0.9 (d,6H), 1.4 (m,2H), 1.6 (m,2H), 2.2 (s,3H), 2.4 (s,3H), 2.8 (t,2H), 3.0 (s,6H), 6.6 (s,1H), 7.1 (s,1H), 7.4 (s,1H). |
| 157 | δ 0.95 (t,6H), 1.2-1.6 (m,10H), 2.25(s,3H), 2.4 (s,3H), 2.9 (m,1H), 3.0 (s,6H), 6.6 (s,1H), 7.2 (s,1H), 7.4 (s,1H). |
| 158 | δ 0.85 (s,9H), 0.95 (d,3H), 1.4 (m,2H), 2.25 (s,3H), 2.4 (s,3H), 2.8 (m,2H), 3.0 (s,6H), 6.55 (s, 1H), 7.05 (s,1H), 7.4 (s,1H). |
| 159 | δ 0.85 (d,12 H), 1.25-1.6 (m,10H), 2.25 (s,3H), 2.40 (s,3H), 2.95 (m,1H), 3.05 (s,6H), 6.60 (s,1H), 7.20 (s,1H), 7.45 (s, 1H). |
| 160 | δ 0.9 (t,6H), 1.25 – 1.6 (m,10H), 2.2 (s,3H), 2.35 (s,3H), 2.9 (m,1H), 3.0 (s,6H), 6.5 (s,1H), 7.25 (s,1H), 7.4 (s,1H). |
| 161 | δ 0.9 (t,3H), 1.0 (m,2H), 1.6 (s,3H), 2.25 (s,3H), 2.4 (s,3H), 3.05 (s,6H), 3.1 (m,1H), 4.7 (m,2H), 6.55 (s,1H), 7.20 (s,1H), 7.45 (s, 1H). |
| 162 | δ 0.9 (d,6H), 1.0 (t,3H), 1.3-1.7 (m,5H), 2.20 (s,3H), 2.4 (s,3H), 2.9 (m,1H), 3.0 (s, 6H), 6.6 (s,1H), 7.20 (s,1H), 7.45 (s,1H). |
| 163 | δ 0.00 (s,9H), 0.60 (m,2H), 1.30 (t,6H), 1.75 (m,2H), 2.15 (s,3H), 2.3 (s,3H), 3.45 (q,4H), 3.85 (t,2H), 6.65 (s,1H), 6.90 (s,1H), 7.35 (s,1H). |
| 165 | δ 1.25 (s,9H), 2.15 (s,3H), 2.25 (s,3H), 2.8 (s,3H), 3.5 (s,6H), 3.65 (m,2H), 3.95 (m,2H), 6.65 (s,1H), 6.85 (s,1H). |
| 167 | δ 0.00 (s,9H), 0.60 (m,2H), 1.65 (m,2H), 2.15 (s,3H), 2.25 (s,3H), 3.3 (s,6H), 3.85 (t,2H), 6.62 (s,1H), 6.75 (br s,1H), 6.9 (s,1H). |
| 173 | δ 0.00 (s,9H), 0.62 (m,2H), 1.72 (s,3H), 1.8 (m,2H), 1.96 (s,3H), 3.05 (s,6H), 3.88 (t,2H), 6.62 (s,1H), 6.73 (s,1H). |
| 174 | δ 1.40 (s,9H), 2.32 (s,3H), 2.35 (s,3H), 3.00 (s,6H), 3.55 (s,2H), 6.60 (s,1H), 7.38 (s,1H), 7.60 (s,1H), 8.70 (br s,1H). |
| 175 | δ 0.80 (s,9H), 1.20-1.40 (m,4H), 1.8 (s,3H), 3.0 (s,6H), 3.9 (t,2H), 6.60 (s,1H), 6.70 (s,1H), 7.25 (s, 1H). |

| Cmpd No. | ¹ H NMR Data (CDCl ₃ solution unless indicated otherwise) ^a |
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| 176 | δ 0.80 (s,9H), 1.30 (m,2H), 1.5 (m,2H), 1.8 (s,3H), 2.0 (s,3H), 3.0 (s,6H), 3.95 (t,2H), 6.60 (s,1H), 6.70 (s,1H). |
| 177 | δ 0.90 (s,9H), 1.25 (m,2H), 1.45 (t,6H), 1.80 (m,2H), 2.20 (s,3H), 3.80 (q,4H), 3.95 (t,2H), 6.40 (bs,1H), 6.50 (s,1H), 7.20 (s,1H) |
| 182 | δ 0.00 (s,9H), 0.60 (m,2H), 1.80 (m,2H), 2.15 (s,3H), 2.95 (s,6H), 3.85 (t,2H), 6.65 (s,1H), 7.4 (s,1H). |
| 191 | δ 0.92 (s,9H), 1.26-1.35 (m,8H), 1.75 (m,2H), 2.15 (s,3H), 2.2 (s,3H), 3.75 (q,4H), 3.9 (t,2H), 6.6 (s,1H), 6.7 (s,1H), 6.9 (s,1H). |
| 196 | δ 0.00 (s,9H), 0.6 (m,2H), 1.15 (t,3H), 1.7 (m,2H), 2.13 (s,3H), 2.19 (s,3H), 2.93 (s,3H), 3.3 (m,2H), 3.83 (t,2H), 6.5 (s,1H), 6.59 (s,1H), 7.36 (br s,1H), |
| 197 | δ 0.9 (d,6H), 1.15 (t,3H), 1.3 - 1.45 (m,2H), 1.5-1.7 (m,1H), 1.7-1.9 (m,2H), 2.2 (s,3H), 2.9 (s,3H), 3.3 (m,2H), 3.9 (t,2H), 6.7 (s,1H), 6.8 (s,1H), 7.4 (br s,1H). |
| 198 | δ 0.95 (d,6H), 1.15 (t,3H), 1.25 (d,3H), 1.35 (m,2H), 1.55 (m,2H), 1.7 (m,1H), 2.1 (s,3H), 2.9 (s,3H), 3.3 (br s,2H), 4.2 (m,1H), 6.7 (s,1H), 7.4 (s,1H). |
| 199 | δ 0.9 (d,9H), 1.18 (t,3H), 1.3 (m,2H), 1.7 (m,2H), 2.17 (s,3H), 2.2 (s,3H), 2.95 (s,3H), 3.3 (br m,2H), 3.85 (t,2H), 6.5 (s,1H), 6.6 (s,1H), 7.3 (s,1H). |
| 200 | δ 0.9 (d,6H), 1.18 (t,2H), 1.3 (m,2H), 1.55 (m,1H), 1.78 (m,2H), 2.2 (s,3H), 2.26 (s,3H), 2.94 (s,3H), 3.3 (br m,2H), 3.78 (t,2H), 6.4 (s,1H), 7.3 (s,1H). |
| 201 | δ 0.9 (d,9H), 1.18 (t,3H), 1.3 (m,2H), 1.7 (m,2H), 2.2 (s,3H), 2.26 (s,3H), 2.94 (s,3H), 3.3 (br m,2H), 3.78 (t,2H), 6.4 (s,1H), 7.3 (s,1H). |
| 202 | δ 0.02 (s,9H), 0.62 (m,2H), 1.2 (t,3H), 1.82 (m,2H), 3 (s,3H), 3.2-3.6 (m, 2H), 3.82 (s,3H), 3.95 (t,2H), 6.51 (s, 1H), 6.79 (s, 1H), 7.47 (br, 1H). |
| 203 | δ 0.02 (s,9H), 0.62 (m,2H), 1.22 (t,3H), 1.82 (m,2H), 2.4 (s,3H), 3.01 (s,3H), 3.2-3.6 (m, 2H), 3.96 (t,2H), 6.69 (s, 1H), 6.79 (s, 1H), 7.3-7.53 (br, 1H). |
| 205 | δ 0.02 (s,9H), 0.65 (m,2H), 1.24 (d,6H), 1.82 (m,2H), 2.4 (s,3H), 2.94 (br s,3H), 3.64 (m,1H), 3.96(t,2H), 6.69 (s,1H), 6.79 (s,1H), 7.6 (s,1H). |
| 206 | δ 0.02 (s,9H), 0.62 (m,2H), 0.92 (t,3H), 1.62 (m,2H), 1.82 (m,2H), 2.4 (s,3H), 3.02 (s,3H), 3.1-3.5 (m, 2H), 3.96 (t,2H), 6.69 (s, 1H), 6.79 (s, 1H), 7.45 (br s, 1H). |

| Cmpd No. | ¹ H NMR Data (CDCl ₃ solution unless indicated otherwise) ^a |
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| 207 | δ 0.02 (s,9H), 0.62 (m,2H), 1.82 (m,2H), 2.23 (s,3H), 2.27 (s,1H), 3.04 (s,3H), 3.93 (t,2H), 4.17 (br s, 2H), 6.74 (s, 1H), 6.78 (s, 1H), 7.4 (s, 1H). |
| 208 | δ 0.02 (s,9H), 0.61 (m,2H), 1.23 (t,3H), 1.8 (m,2H), 2.16 (s,3H), 3.01 (s,3H), 3.1-3.6 (m, 2H), 3.93 (t,2H), 6.72 (s, 1H), 7.22 (br s, 1H). |
| 209 | δ 0.02 (s,9H), 0.6 (m,2H), 1.8 (m,2H), 2.23 (s,3H), 2.43 (m,2H), 3.93 (t,2H), 4.3 (t, 4H), 6.72 (s, 1H), 6.75 (s, 1H), 7.31 (s, 1H). |

^a ¹H NMR data are in ppm downfield from tetramethylsilane. Couplings are designated by (s)-singlet, (d)-doublet, (t)-triplet, (q)-quartet, (m)-multiplet, (dd)-doublet of doublets, (dt)-doublet of triplets, (br s)-broad singlet.

BIOLOGICAL EXAMPLES OF THE INVENTION

5 General protocol for preparing test suspensions: Test compounds were first dissolved in acetone in an amount equal to 3% of the final volume and then suspended at the desired concentration (in ppm) in acetone and purified water (50/50 mix) containing 250 ppm of the surfactant Trem[®] 014 (polyhydric alcohol esters). The resulting test suspensions were then used in the following tests. Spraying a 200 ppm test suspension to the point of run-off on the
10 test plants was the equivalent of a rate of 500 g/ha.

TEST A

 The test suspension was sprayed to the point of run-off on wheat seedlings. The following day the seedlings were inoculated with a spore dust of *Erysiphe graminis* f. sp. *tritici*, (the causal agent of wheat powdery mildew) and incubated in a growth chamber
15 at 20 °C for 7 days, after which disease ratings were made.

TEST B

 The test suspension was sprayed to the point of run-off on wheat seedlings. The following day the seedlings were inoculated with a spore suspension of *Puccinia recondita* (the causal agent of wheat leaf rust) and incubated in a saturated atmosphere at 20 °C for
20 24 h, and then moved to a growth chamber at 20°C for 6 days, after which disease ratings were made.

TEST C

 The test suspension was sprayed to the point of run-off on wheat seedlings. The following day the seedlings were inoculated with a spore suspension of *Septoria nodorum*
25 (the causal agent of *Septoria* glume blotch) and incubated in a saturated atmosphere at 20 °C for 48 h, and then moved to a growth chamber at 20 °C for 9 days, after which disease ratings were made.

Results for Tests A-C are given in Table A. In the table, a rating of 100 indicates 100% disease control and a rating of 0 indicates no disease control (relative to the controls). A dash (-) indicates no test results.

Table A

| Cmpd No. | Test A | Test B | Test C |
|----------|--------|--------|--------|
| 1 | 32 | 100 | 92 |
| 2 | 95 | 100 | 36 |
| 3 | 0 | 87 | 0 |
| 4 | 0 | 92 | 0 |
| 5 | 0 | 100 | 89 |
| 6 | 0 | 100 | 60 |
| 7 | 0 | 0 | 0 |
| 8 | 97 | 100 | 98 |
| 9 | 98 | 100 | 97 |
| 10 | 97 | 100 | 0 |
| 11 | 97 | 100 | 100 |
| 12 | 97 | 100 | 80 |
| 13 | 97 | 100 | 100 |
| 14 | 90 | 100 | 0 |
| 15 | 94 | 100 | 0 |
| 16 | 88 | 100 | 97 |
| 17 | 92 | 100 | 100 |
| 18 | 98 | 100 | 98 |
| 19 | 96 | 100 | 100 |
| 20 | 96 | 100 | 99 |
| 21 | 98 | 100 | 96 |
| 22 | 98 | 100 | 88 |
| 23 | 97 | 98 | 13 |
| 24 | 86 | 23 | 0 |
| 25 | 0 | 90 | 0 |
| 26 | 98 | 100 | 100 |
| 27 | 99 | 100 | 100 |
| 28 | 0 | 97 | 0 |
| 29 | 99 | 100 | 58 |
| 30 | 0 | 100 | 0 |
| 31 | 93 | 100 | 53 |
| 32 | 97 | 100 | 95 |

| Cmpd No. | Test A | Test B | Test C |
|----------|--------|--------|--------|
| 33 | 95 | 100 | 0 |
| 34 | 96 | 100 | 0 |
| 35 | 95 | 100 | 100 |
| 36 | 88 | 100 | 0 |
| 37 | -- | -- | -- |
| 38 | 96 | 100 | 20 |
| 39 | 0 | 100 | 94 |
| 40 | 97 | 100 | 100 |
| 41 | 79 | 99 | 47 |
| 42 | 96 | 99 | 63 |
| 43 | 96 | 100 | 93 |
| 44 | 99 | 100 | 99 |
| 45 | 0 | 80 | 0 |
| 46 | 97 | 100 | 97 |
| 47 | 29 | 99 | 80 |
| 48 | 99 | 100 | 96 |
| 49 | 99 | 99 | 83 |
| 50 | 99 | 67 | 100 |
| 51 | 96 | 100 | 100 |
| 52 | 100 | 100 | 99 |
| 53 | 100 | 100 | 99 |
| 54 | 100 | 100 | 100 |
| 55 | 0 | 19 | 0 |
| 56 | 100 | 100 | 100 |
| 57 | 100 | 100 | 100 |
| 58 | 100 | 100 | 100 |
| 59 | 100 | 100 | 100 |
| 60 | 100 | 100 | 100 |
| 61 | 100 | 100 | 100 |
| 62 | 100 | 100 | 100 |
| 63 | 100 | 100 | 100 |
| 64 | 100 | 100 | 100 |
| 65 | 100 | 100 | 96 |
| 66 | - | - | - |
| 67 | - | - | - |
| 68 | - | - | - |

| Cmpd No. | Test A | Test B | Test C |
|----------|--------|--------|--------|
| 69 | - | - | - |
| 70 | - | - | - |
| 71 | - | - | - |
| 72 | - | - | - |
| 73 | 99 | 61 | 66 |
| 74 | 100 | 100 | 100 |
| 75 | 100 | 100 | 100 |
| 76 | 100 | 100 | 100 |
| 77 | 100 | 100 | 100 |
| 78 | 0 | 98 | 100 |
| 79 | 0 | 99 | 100 |
| 83 | 0 | 9 | 0 |
| 84 | 100 | 100 | 100 |
| 85 | 100 | 99 | 100 |
| 86 | 100 | 99 | 100 |
| 87 | - | - | - |
| 88 | - | - | - |
| 89 | - | - | - |
| 90 | - | - | - |
| 91 | 0 | 26 | 0 |
| 92 | 100 | 100 | 100 |
| 93 | 99 | 100 | 99 |
| 94 | 99 | 100 | 100 |
| 95 | 100 | 100 | 100 |
| 96 | 0 | 100 | 100 |
| 97 | 0 | 45 | 85 |
| 98 | 0 | 60 | 94 |
| 99 | 0 | 9 | 0 |
| 100 | 0 | 86 | 76 |
| 101 | 100 | 100 | 100 |
| 102 | 21 | 95 | 89 |
| 103 | 31 | 0 | 0 |
| 104 | 0 | 23 | 0 |
| 105 | 97 | 100 | 98 |
| 106 | 100 | 100 | 100 |
| 107 | 60 | 99 | 99 |

| Cmpd No. | Test A | Test B | Test C |
|----------|--------|--------|--------|
| 108 | 87 | 89 | 96 |
| 110 | 42 | 97 | 99 |
| 111 | 99 | 100 | 100 |
| 112 | 95 | 99 | 99 |
| 113 | 91 | 99 | 100 |
| 114 | 99 | 100 | 100 |
| 115 | 85 | 85 | 100 |
| 116 | 87 | 92 | 100 |
| 117 | 29 | 37 | 60 |
| 118 | 99 | 100 | 78 |
| 119 | 0 | 64 | 78 |
| 120 | 91 | 8 | 0 |
| 121 | 49 | 85 | 67 |
| 122 | 99 | 100 | 0 |
| 123 | 54 | 46 | 100 |
| 124 | 98 | 98 | 100 |
| 125 | 96 | 97 | 100 |
| 126 | 95 | 40 | 100 |
| 127 | 0 | 99 | 100 |
| 128 | 98 | 95 | 73 |
| 129 | 100 | 100 | 67 |
| 130 | 100 | 97 | 0 |
| 131 | 67 | 100 | 96 |
| 132 | 98 | 100 | 97 |
| 133 | 99 | 85 | 53 |
| 134 | 100 | 100 | 81 |
| 135 | 100 | 100 | 92 |
| 136 | 95 | 91 | 84 |
| 137 | 100 | 100 | 84 |
| 138 | 98 | 74 | 60 |
| 139 | 100 | 100 | 99 |
| 140 | 100 | 100 | 100 |
| 141 | 0 | 99 | 100 |
| 142 | 0 | 0 | 53 |
| 143 | 0 | 0 | 80 |
| 147 | 0 | 0 | 53 |

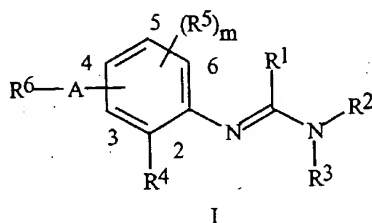
| Cmpd No. | Test A | Test B | Test C |
|----------|--------|--------|--------|
| 148 | 0 | 0 | 47 |
| 150 | 0 | 0 | 47 |
| 151 | 0 | 0 | 60 |
| 154 | 0 | 0 | 47 |
| 155 | 0 | 23 | 95 |
| 156 | 93 | 100 | 100 |
| 157 | 0 | 96 | 99 |
| 158 | 61 | 98 | 56 |
| 159 | 94 | 100 | 47 |
| 160 | 0 | 55 | 0 |
| 161 | 72 | 100 | 53 |
| 162 | 21 | 99 | 67 |
| 163 | 32 | 100 | 73 |
| 164 | 100 | 100 | 100 |
| 165 | 0 | 28 | 0 |
| 167 | 99 | 99 | 100 |
| 168 | 99 | 100 | 100 |
| 169 | 99 | 100 | 100 |
| 170 | 99 | 100 | 99 |
| 172 | 100 | 100 | 100 |
| 173 | 32 | 90 | 99 |
| 175 | 97 | 100 | 100 |
| 176 | 43 | 99 | 100 |
| 177 | 96 | 100 | 100 |
| 178 | 100 | 100 | 100 |
| 179 | 20 | 23 | 0 |
| 180 | 75 | 58 | 0 |
| 181 | 100 | 100 | 67 |
| 182 | 98 | 79 | 67 |
| 183 | 99 | 85 | 90 |
| 184 | 100 | 99 | 78 |
| 185 | 99 | 98 | 63 |
| 186 | 94 | 9 | 0 |
| 187 | 100 | 99 | 78 |
| 188 | 100 | 79 | 90 |
| 189 | 0 | 9 | 0 |

| Cmpd No. | Test A | Test B | Test C |
|----------|--------|--------|--------|
| 190 | 0 | 68 | 0 |
| 191 | 63 | 99 | 91 |
| 192 | 99 | 100 | 100 |
| 193 | 0 | 23 | 0 |
| 194 | 99 | 100 | 100 |
| 196 | 100 | 100 | 100 |
| 197 | 100 | 100 | 100 |
| 198 | 100 | 100 | 100 |
| 199 | 100 | 100 | 100 |
| 200 | 100 | 100 | 100 |
| 201 | 100 | 100 | 100 |

CLAIMS

What is claimed is:

1. A compound of Formula I and or an agriculturally suitable salt thereof,



5 wherein:

R^1 is H, OH, SH, SO_3H , CN, $-OR^7$ or $-SR^7$; C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_2 - C_5 alkoxy carbonyl, C_2 - C_{10} alkynyl, a C_3 - C_6 carbocycle or a 3-, 4-, 5- or 6-membered heterocycle, each optionally substituted; provided that when R^1 is a heterocycle containing nitrogen as a ring member, it is not attached to the remainder of Formula I through said nitrogen ring member;

10

R^2 is H, CN, $-OR^7$, or $-SR^7$; C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_2 - C_{10} alkynyl, C_3 - C_6 carbocycle, a 3-, 4-, 5- or 6-membered heterocycle or C_2 - C_{10} alkyl carbonyl, each optionally substituted;

15

R^3 is H; C_1 - C_{10} alkyl, C_2 - C_{10} alkenyl, C_2 - C_{10} alkynyl, a C_3 - C_6 carbocycle, a 3-, 4-, 5- or 6-membered heterocycle or C_2 - C_{10} alkyl carbonyl, each optionally substituted;

or

R^2 and R^3 are taken together with their interconnecting nitrogen to form a heterocyclic ring containing 3 to 7 atoms, said ring consisting of said interconnecting nitrogen atom, carbon and optionally one or two additional atoms selected from the group consisting of nitrogen, sulfur and oxygen, and said ring being optionally substituted with one or more R^9 ;

20

R^4 and each R^5 are each independently C_1 - C_6 alkyl, C_2 - C_6 alkenyl, C_2 - C_6 alkynyl, C_3 - C_6 cycloalkyl, C_1 - C_6 haloalkyl, C_2 - C_6 haloalkenyl, C_2 - C_6 haloalkynyl, C_3 - C_6 halocycloalkyl, halogen, CN, CHO, CO_2H , $CONH_2$, SF_5 , C_1 - C_4 alkoxy, C_1 - C_4 haloalkoxy, C_1 - C_4 alkylthio, C_1 - C_4 alkylsulfinyl, C_1 - C_4 alkylsulfonyl, C_1 - C_4 haloalkylthio, C_1 - C_4 haloalkylsulfinyl, C_1 - C_4 haloalkylsulfonyl, C_1 - C_4 alkylamino, C_2 - C_8 dialkylamino, C_3 - C_6 cycloalkylamino, C_2 - C_6 alkyl carbonyl, C_2 - C_6 alkoxy carbonyl, C_2 - C_6 alkylaminocarbonyl, C_3 - C_8 dialkylaminocarbonyl or C_3 - C_6 trialkylsilyl;

25

30

R^6 is C_5 - C_{21} alkyl, C_5 - C_{21} alkenyl, C_5 - C_{21} alkynyl, C_4 - C_9 alkoxy carbonyl, C_4 - C_6 alkylaminocarbonyl, C_3 - C_{10} dialkylaminocarbonyl or C_3 - C_{12} trialkylsilyl, each optionally substituted; or R^6 is C_1 - C_4 alkyl or C_2 - C_9 alkyl carbonyl, each substituted with one or more R^{12} ;

A is a direct bond, O, S(O)_n or NR¹⁰;

each R⁷ is independently C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, a C₃-C₆ carbocycle or a 3-, 4-, 5- or 6-membered heterocycle, each optionally substituted;

each R⁹ is independently halogen, CN, NO₂, C₁-C₄ alkoxy, C₁-C₄ alkyl, C₁-C₄ haloalkoxy or C₁-C₄ alkylthio;

R¹⁰ is H, C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₁-C₄ alkylsulfonyl, C₁-C₄ haloalkylsulfonyl, C₂-C₆ alkylcarbonyl, C₂-C₆ alkoxycarbonyl, C₂-C₆ alkylaminocarbonyl, C₃-C₈ dialkylaminocarbonyl or C₃-C₆ trialkylsilyl;

each R¹² is independently CO₂H, CONH₂, NO₂, C₁-C₆ haloalkoxy, C₂-C₆ alkylthio, C₁-C₆ alkylsulfinyl, C₁-C₆ alkylsulfonyl, C₁-C₆ haloalkylthio, C₁-C₆ haloalkylsulfinyl, C₁-C₆ haloalkylsulfonyl, C₁-C₆ alkylamino, C₂-C₈ dialkylamino, C₂-C₆ alkylcarbonyl, C₂-C₆ alkoxycarbonyl, C₃-C₉ alkoxyalkylcarbonyl, C₂-C₆ alkylaminocarbonyl, C₃-C₁₀ alkylaminoalkylcarbonyl, C₃-C₈ dialkylaminocarbonyl, C₄-C₈ dialkylaminoalkylcarbonyl, C₃-C₉ alkylthioalkylcarbonyl, C₃-C₉ halotrialkylsilyl, C₄-C₉ alkoxytrialkylsilyl, C₃-C₉ trialkylsilyl or C₃-C₉ trialkylsilyloxy;

n is 0, 1 or 2; and

m is 0, 1, 2 or 3.

2. A compound of Claim 1 wherein:

R¹ is H, SH, SO₃H, CN, -OR⁷ or -SR⁷; C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl or C₂-C₁₀ alkynyl, each optionally substituted with one or more R⁸; or a C₃-C₆ carbocycle or a 3-, 4-, 5- or 6-membered heterocycle, each optionally substituted with one or more R⁹;

R² is H, CN, -OR⁷ or -SR⁷; C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl or C₂-C₁₀ alkylcarbonyl, each optionally substituted with one or more R⁸; or a C₃-C₆ carbocycle or a 3-, 4-, 5- or 6-membered heterocycle, each optionally substituted with one or more R⁹;

R³ is H; C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl or C₂-C₁₀ alkylcarbonyl, each optionally substituted with one or more R⁸; or a C₃-C₆ carbocycle or a 3-, 4-, 5- or 6-membered heterocycle, each optionally substituted with one or more R⁹; or

R² and R³ are taken together with their interconnecting nitrogen to form a heterocyclic ring containing 3 to 7 atoms, said ring consisting of said interconnecting nitrogen atom, carbon and optionally one or two additional atoms selected from the group consisting of nitrogen, sulfur and oxygen, and said ring being optionally substituted with one or more R⁹;

R⁶ is C₅-C₂₁ alkyl, C₅-C₂₁ alkenyl, C₅-C₂₁ alkynyl, C₄-C₉ alkoxycarbonyl, C₄-C₆ alkylaminocarbonyl, C₃-C₁₀ dialkylaminocarbonyl or C₃-C₁₂ trialkylsilyl, each

optionally substituted with one or more R¹¹; or R⁶ is C₁-C₄ alkyl or C₂-C₉ alkylcarbonyl, each substituted with one or more R¹²;
each R⁷ is independently C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, each optionally substituted with one or more R⁸; or a C₃-C₆ carbocycle or a 3-, 4-, 5- or
5 6-membered heterocycle, each optionally substituted with one or more R⁹;
each R⁸ is independently halogen, CN, NO₂, C₁-C₄ alkoxy, C₁-C₄ haloalkoxy or C₁-C₄ alkylthio; and
each R¹¹ is independently halogen, CO₂H, CONH₂, NO₂, hydroxy, C₁-C₆ alkoxy, C₁-C₆ haloalkoxy, C₂-C₆ alkylthio, C₁-C₆ alkylsulfinyl, C₁-C₆ alkylsulfonyl,
10 C₁-C₆ haloalkylthio, C₁-C₆ haloalkylsulfinyl, C₁-C₆ haloalkylsulfonyl, C₁-C₆ alkylamino, C₂-C₈ dialkylamino, C₂-C₆ alkylcarbonyl, C₂-C₆ alkoxycarbonyl, C₃-C₉ alkoxyalkylcarbonyl, C₂-C₆ alkylaminocarbonyl, C₄-C₁₀ alkylaminoalkylcarbonyl, C₃-C₈ dialkylaminocarbonyl, C₄-C₈ dialkylaminoalkylcarbonyl, C₃-C₉ alkylthioalkylcarbonyl, C₂-C₈ dialkylphosphoryl, C₂-C₈ dialkylphosphinyl, C₃-C₉ trialkylsilyl or C₃-C₉ trialkylsilyloxy.

3. A compound of Claim 2 wherein

R¹ is H, SH or C₁-C₁₀ alkyl,

R² is H, CN, -OR⁷ or -SR⁷; C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl, C₂-C₁₀ alkynyl, each
20 optionally substituted with one or more R⁸; or phenyl optionally substituted with 1 to 3 R⁹;

R³ is H; C₁-C₁₀ alkyl, C₂-C₁₀ alkenyl or C₂-C₁₀ alkynyl, each optionally substituted with one or more R⁸; or phenyl optionally substituted with 1 to 3 R⁹; or

R² and R³ are taken together with their interconnecting nitrogen to form a heterocyclic
25 ring containing 3 to 7 atoms, said ring consisting of said interconnecting nitrogen atom, carbon and optionally one or two additional atoms selected from the group consisting of nitrogen, sulfur and oxygen, and said ring being optionally substituted with one or more R⁹;

R⁴ and R⁵ are each independently C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₁-C₆ haloalkyl, halogen, CO₂H, CONH₂, C₁-C₄ alkoxy, C₁-C₄ haloalkoxy, C₁-C₄ alkylthio, C₁-C₄ alkylsulfinyl, C₁-C₄ alkylsulfonyl, C₁-C₄ haloalkylthio, C₁-C₄ haloalkylsulfinyl, C₁-C₄ haloalkylsulfonyl, C₂-C₆ alkylcarbonyl, C₂-C₆ alkoxycarbonyl, C₁-C₆ alkylaminocarbonyl, CN, CHO or C₃-C₈ dialkylaminocarbonyl;
30

R⁶ is C₅-C₁₅ alkyl, C₅-C₁₅ alkenyl or C₅-C₁₅ alkynyl, each optionally substituted with one or more R¹¹; or R⁶ is C₁-C₄ alkyl substituted with one or more R¹²;

each R⁷ is independently C₁-C₆ alkyl, optionally substituted with one or more R⁸;

A is a direct bond, O or S(O)_n; and

m is 0, 1 or 2.

4. A compound of Claim 3 wherein

A is attached to the remainder of Formula I at the 4 position of the benzene ring.

5. A compound of Claim 4 wherein

5 R^2 and R^3 are each independently H or C_1 - C_{10} alkyl; or

R^2 and R^3 are taken together with their interconnecting nitrogen to form a heterocyclic ring containing 3 to 7 atoms, said ring consisting of said interconnecting nitrogen atom, carbon and optionally one or two additional atoms selected from the group consisting of nitrogen, sulfur and oxygen, and said ring being optionally substituted with one or more R^9 ;

10 R^4 and R^5 are each independently halogen, CN, CHO, C_1 - C_6 alkyl, C_1 - C_4 alkoxy, C_1 - C_4 haloalkoxy, C_1 - C_4 alkylthio, C_1 - C_4 alkylsulfinyl, C_1 - C_4 haloalkylthio, C_1 - C_4 haloalkylsulfinyl or C_1 - C_6 haloalkyl;

One R^5 is attached to the remainder of Formula I at the 5 position of the benzene ring and an optional second R^5 is attached at the 6 position of the benzene ring; and m is 1 or 2.

6. A compound of Claim 5 wherein

R^1 is H; and

20 R^6 is C_6 - C_{15} alkyl wherein at least one of the fourth and fifth carbon from A has one or no hydrogen attached or C_5 - C_{15} 2-alkenyl wherein the fourth or fifth carbon from A has one or no hydrogen attached.

7. A compound of Claim 5 wherein

R^1 is H; and

25 R^6 is C_1 - C_4 alkyl substituted with one or more substituents selected from the group consisting of C_2 - C_6 alkylthio, C_1 - C_6 alkylsulfinyl, C_2 - C_6 alkoxy carbonyl, C_2 - C_8 dialkylamino, C_2 - C_6 alkyl carbonyl, C_3 - C_9 alkoxyalkyl carbonyl, C_2 - C_6 alkylaminocarbonyl, C_3 - C_8 dialkylaminocarbonyl, C_3 - C_9 trialkylsilyl, C_3 - C_9 halotrialkylsilyl, C_4 - C_9 alkoxytrialkylsilyl or C_3 - C_9 trialkylsilyloxy.

8. A fungicidal composition comprising a fungicidally effective amount of a compound of Claim 1 and at least one additional component selected from the group consisting of surfactants, solid diluents and liquid diluents.

9. A fungicidal composition comprising a mixture of a compound of Claim 1 and at least one other fungicide having a different mode of action.

10. A method for controlling plant diseases caused by fungal plant pathogens comprising applying to the plant or portion thereof, or to the plant seed or seedling, a fungicidally effective amount of a compound of Claim 1.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 03/13371

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C07C257/10 C07C257/12 C07C335/16 C07C335/18 C07C335/20
A01N37/52 A01N47/28 A01N47/40

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C07C A01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| X | US 5 177 106 A (CREGER PAUL L) 5 January 1993 (1993-01-05) Column 2, l. 36-52 and column 8, l. 45-65 | 1-5 |
| X | WO 00 06555 A (AMERICAN HOME PROD) 10 February 2000 (2000-02-10) page 6; claims 1,7; example 4 | 1-5 |
| Y | US 3 284 289 A (HANS AEBI ET AL) 8 November 1966 (1966-11-08) column 2, line 8 - line 20; claim 1; examples 3-6; table 1 | 1-10 |
| | --- -/-- | |

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

22 August 2003

Date of mailing of the international search report

04/09/2003

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Authorized officer

Rufet, J

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 03/13371

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| X | DE 20 29 298 A (FARBENFABRIKEN BAYER AG) 23 December 1971 (1971-12-23) page 4, l. 32-34; claims 1, 2 | 1-5 |
| Y | page 45, l. 20 to page 46, l. 16; pages 24, 31, 32; claims 1, 2 & US 4 018 814 A 19 April 1977 (1977-04-19) cited in the application ---- | 1-10 |
| Y | DE 21 13 978 A (HOECHST AG) 12 October 1972 (1972-10-12) the whole document ---- | 1-10 |
| Y | DE 22 59 221 A (CIBA GEIGY AG) 20 June 1973 (1973-06-20) the whole document ---- | 1-10 |
| Y | WO 00 46184 A (HOECHST SCHERING AGREVO GMBH ;ATHERALL JOHN FREDERICK (GB); HOUGH) 10 August 2000 (2000-08-10) cited in the application claims 1,16,21,22; table 1 ---- | 1-10 |
| Y | DE 27 55 549 A (CIBA GEIGY AG) 22 June 1978 (1978-06-22) page 6, line 4-38; example 7; table 1 ----- | 1-10 |

FURTHER INFORMATION CONTINUED FROM PCT/SA/ 210

Continuation of Box I.2

Claims Nos.: 1-10 all partially

Present claims 1-10 relate to an extremely large number of possible compounds/compositions and uses thereof. Support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT is to be found, however, for only a very small proportion of the compounds claimed. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Consequently, the search has been carried out for those parts of the claims which appear to be supported and disclosed, namely those parts relating to the compounds of formula (I) of claim 1 with the following limitations:

- R1 is H, SH, Methyl and C2-C5 alkoxy carbonyl;
- R2, R3 are independently H, C1-C10 alkyl, C2-C10 alkenyl, C2-C10 alkynyl, cyclopropyl or R2 and R3 taken together are -CH₂CH₂nCH₂- wherein n is 0 to 5;
- R4 to R10, R12 according to their respective definitions given in claim 1; R11 according to claim 2.

It is stressed that expressions like "carbocycle", "membered heterocycle", "optionally substituted", "heterocyclic ring containing 3 to 7 atoms....and optionally one or two additional atoms" etc.. present in the claims are speculative, embracing a great variety of structural possibilities not yet explored by the Applicant, the effect of which cannot be foreseen having regard to the problem to be solved. Such expressions render a complete search impossible.

It is also pointed out that the search as limited above includes the compounds of examples 1-7 and of index tables A-D as far as these compounds are comprised by the scope of claim 1. Consequently compounds 16, 17, 41 and 165 have not been covered by the limited search.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 03/13371

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 1-10 all partially
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 03/13371

| Patent document cited in search report | | Publication date | Patent family member(s) | Publication date |
|---|---|---------------------|---|--|
| US 5177106 | A | 05-01-1993 | NONE | |
| WO 0006555 | A | 10-02-2000 | AU 5391099 A BR 9912575 A CA 2336802 A1 CN 1310713 T EP 1100788 A1 JP 2002521476 T WO 0006555 A1 | 21-02-2000 02-05-2001 10-02-2000 29-08-2001 23-05-2001 16-07-2002 10-02-2000 |
| US 3284289 | A | 08-11-1966 | CH 432929 A AT 255205 B AT 263445 B BE 672371 A BE 629317 A CH 477814 A CH 452271 A DE 1542715 A1 DE 1542741 A1 DE 1542850 A1 FR 90370 E FR 1353726 A GB 1128928 A GB 964640 A NL 140233 B NL 289934 A NL 6514889 A ,B OA 1200 A US 3867448 A US 3803134 A US 3487156 A US 3781356 A US 3781357 A | 31-03-1967 26-06-1967 25-07-1968 16-05-1966 15-09-1969 31-05-1968 27-11-1969 18-06-1970 04-06-1970 14-02-1968 28-02-1964 02-10-1968 15-11-1973 18-05-1966 25-01-1969 18-02-1975 09-04-1974 30-12-1969 25-12-1973 25-12-1973 |
| DE 2029298 | A | 23-12-1971 | DE 2029298 A1 AR 205686 A1 AT 311938 B AT 313873 B AT 315820 B BE 768402 A1 CA 1000713 A1 CH 573901 A5 CH 573902 A5 CH 573900 A5 CS 172349 B2 CS 172350 B2 CS 172348 B2 DK 132075 B EG 10637 A ES 392166 A1 ES 395639 A1 ES 395640 A1 FR 2100756 A5 GB 1325527 A HK 29976 A HU 162206 B IE 35362 B1 IL 37023 A | 23-12-1971 31-05-1976 10-12-1973 11-03-1974 10-06-1974 13-12-1971 30-11-1976 31-03-1976 31-03-1976 31-03-1976 29-12-1976 29-12-1976 29-12-1976 20-10-1975 30-04-1976 01-02-1974 16-11-1973 16-11-1973 24-03-1972 01-08-1973 28-05-1976 29-01-1973 21-01-1976 31-08-1975 |

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 03/13371

| Patent document cited in search report | | Publication date | | Patent family member(s) | Publication date |
|---|---|---------------------|----|----------------------------|---------------------|
| DE 2029298 | A | | IN | 141794 A1 | 16-04-1977 |
| | | | IN | 141795 A1 | 16-04-1977 |
| | | | JP | 1092158 C | 16-04-1982 |
| | | | JP | 55143953 A | 10-11-1980 |
| | | | JP | 56034585 B | 11-08-1981 |
| | | | JP | 1092159 C | 16-04-1982 |
| | | | JP | 55143954 A | 10-11-1980 |
| | | | JP | 56034586 B | 11-08-1981 |
| | | | JP | 55143955 A | 10-11-1980 |
| | | | JP | 57048147 B | 14-10-1982 |
| | | | JP | 56003341 B | 24-01-1981 |
| | | | NL | 7108066 A | 15-12-1971 |
| | | | PH | 10292 A | 08-11-1976 |
| | | | PL | 89670 B1 | 31-12-1976 |
| | | | PL | 93694 B1 | 30-06-1977 |
| | | | PL | 93695 B1 | 30-06-1977 |
| | | | RO | 58997 A1 | 15-02-1976 |
| | | | RO | 62442 A1 | 15-02-1978 |
| | | | RO | 58867 A1 | 15-05-1976 |
| | | | SE | 366028 B | 08-04-1974 |
| | | | SU | 469244 A3 | 30-04-1975 |
| | | | SU | 450400 A3 | 15-11-1974 |
| | | | US | 3818070 A | 18-06-1974 |
| | | | US | 3911010 A | 07-10-1975 |
| | | | US | 4018814 A | 19-04-1977 |
| | | | US | 3996247 A | 07-12-1976 |
| DE 2113978 | A | 12-10-1972 | DE | 2113978 A1 | 12-10-1972 |
| | | | AT | 318292 B | 10-10-1974 |
| | | | BE | 781134 A1 | 25-09-1972 |
| | | | CA | 989398 A1 | 18-05-1976 |
| | | | CH | 570760 A5 | 31-12-1975 |
| | | | DD | 102059 A5 | 05-12-1973 |
| | | | FR | 2141039 A5 | 19-01-1973 |
| | | | GB | 1357301 A | 19-06-1974 |
| | | | IL | 39029 A | 13-03-1975 |
| | | | IT | 953537 B | 10-08-1973 |
| | | | NL | 7203600 A | 26-09-1972 |
| | | | US | 3857836 A | 31-12-1974 |
| | | | ZA | 7201797 A | 27-12-1972 |
| DE 2259221 | A | 20-06-1973 | CH | 563713 A5 | 15-07-1975 |
| | | | AT | 320340 B | 10-02-1975 |
| | | | AU | 4949372 A | 30-05-1974 |
| | | | BE | 792407 A1 | 07-06-1973 |
| | | | CA | 1032963 A1 | 13-06-1978 |
| | | | CS | 168016 B2 | 28-05-1976 |
| | | | DD | 102559 A5 | 20-12-1973 |
| | | | DE | 2259221 A1 | 20-06-1973 |
| | | | FR | 2162496 A1 | 20-07-1973 |
| | | | GB | 1397322 A | 11-06-1975 |
| | | | HU | 165321 B | 28-08-1974 |
| | | | IL | 40934 A | 31-08-1976 |
| | | | IT | 971646 B | 10-05-1974 |
| | | | JP | 48062929 A | 01-09-1973 |
| | | | NL | 7216555 A | 12-06-1973 |
| | | | ZA | 7208642 A | 29-08-1973 |

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 03/13371

| Patent document cited in search report | | Publication date | Patent family member(s) | Publication date |
|---|---|---------------------|----------------------------|---------------------|
| WO 0046184 | A | 10-08-2000 | AU 2308800 A | 25-08-2000 |
| | | | BR 0009314 A | 13-02-2002 |
| | | | CA 2360943 A1 | 10-08-2000 |
| | | | CN 1342137 T | 27-03-2002 |
| | | | CZ 20012842 A3 | 13-03-2002 |
| | | | EP 1150944 A1 | 07-11-2001 |
| | | | WO 0046184 A1 | 10-08-2000 |
| | | | HU 0105098 A2 | 29-04-2002 |
| | | | JP 2002536354 T | 29-10-2002 |
| | | | TR 200102237 T2 | 21-12-2001 |
| <hr/> | | | | |
| DE 2755549 | A | 22-06-1978 | CH 627917 A5 | 15-02-1982 |
| | | | CH 623989 A5 | 15-07-1981 |
| | | | AT 356969 B | 10-06-1980 |
| | | | AT 898777 A | 15-10-1979 |
| | | | AU 3163177 A | 21-06-1979 |
| | | | CA 1097359 A1 | 10-03-1981 |
| | | | DE 2755549 A1 | 22-06-1978 |
| | | | EG 12796 A | 31-03-1981 |
| | | | ES 465091 A1 | 01-10-1978 |
| | | | FR 2374320 A1 | 13-07-1978 |
| | | | GB 1586257 A | 18-03-1981 |
| | | | IL 53623 A | 30-10-1981 |
| | | | JP 53077063 A | 08-07-1978 |
| | | | NL 7713687 A | 20-06-1978 |
| | | | TR 19828 A | 24-01-1980 |
| | | | US 4160843 A | 10-07-1979 |
| | | | BE 861873 A1 | 15-06-1978 |
| | | | ZA 7707477 A | 25-10-1978 |
| <hr/> | | | | |

